

SUDS STRATEGY

MILTON PLACE

THE HILL GROUP

JANUARY 2026

SE2490-ISS-XX-XX-RP-C-3000

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IESISSTRUCTURES

REPORT ISSUE

Revision	Date	Notes
P01	15/01/2026	Issued for Planning

PREPARED BY

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1. INTRODUCTION

1.1. This report has been prepared for The Hill Group in relation to the development at Milton Place, Gravesend, Kent, DA12 2BT and shall refer to this simply as the Development; the existing site shall be referred to as the Site. No responsibility is accepted to any third party for all or part of this study in connection with this or any other development.

1.2. This drainage strategy report and subsequent drawings have been prepared to Discharge Condition 6 (Sustainable Urban Drainage) of planning permission 20250167 as required by Kent County Council (KCC).

1.3. Condition 6 as outlined by KCC is worded as follows:

Condition 6

No development other than necessary enabling works (means preparation works to make the Site ready for construction. Such works include (but are not exclusively limited to); site or ground clearance and preparation, surveying, environmental and hazardous substance testing and sampling, soil tests, remediation works, pegging out, tree protection, ecological survey and mitigation works, archaeological investigation, site clearance, ground improvement works, construction of boundary fencing or hoardings including for site security, demolition and removal of buildings and other structures, creation of temporary haul roads and enabling works accesses or other works or operations to enable any of these works to take place including site and ground works) shall begin until a detailed sustainable surface water drainage scheme for the site has been submitted to (and approved in writing by) the local planning authority. The submitted scheme shall demonstrate compliance with the required technical standards at the time of submission and shall demonstrate that the surface water generated by this development (for all rainfall durations and intensities up to and including the climate change adjusted critical 100-year storm) can be accommodated and disposed of within the curtilage of the site without increase to flood risk on or off-site. The drainage scheme shall also demonstrate (with reference to published guidance):

- *that silt and pollutants resulting from the site use can be adequately managed to ensure there is no pollution risk to receiving waters.*
- *appropriate operational, maintenance and access requirements for each drainage feature or SuDS component are adequately considered, including any proposed arrangements for future adoption by any public body or statutory undertaker.*

The drainage scheme shall be implemented in accordance with the approved details.

- *Reason - To ensure the development is served by satisfactory arrangements for the disposal of surface water and to ensure that the development does not exacerbate the risk of on/off site flooding in accordance with paragraph 181 of the National Planning Policy Framework (2024).*

1.4. This report will take the form of a drainage strategy in accordance with the 2025 National Planning Policy Framework (NPPF) and the 2024 National Planning Practice Guidance (NPPG).

2. EXISTING SITE AND CHARACTERISTICS

SITE DESCRIPTION

2.1. The application site (Appendix A) is located in Gravesend, Kent (DA12 2BT), which falls under the Lead Local Flood Authority (LLFA) jurisdiction of the Kent County Council. The grid reference of the development is 565287, 174116.

2.2. The Site where the development is proposed is bound by Ordnance Road to the south, Milton Place to the west and Khartoum Place Road, a footpath and Gordon Gardens to the north. The site is currently a mix of greenfield and brownfield and with no existing structures atop it at the writing of this report.

2.3. The existing site is currently comprised of a car park, which is currently in use; a skate park; an area of open space which forms part of the Gordon Recreation Ground and some brownfield land. Historically, a church building, a swimming pool, municipal buildings and an old school used to be located on the site.

2.4. A topographic survey (Appendix B) carried out by Survey Solutions in April 2023 shows that ground levels on site falls from the west towards the east. The highest levels are located to the southwest, with highest level reaching 11.21m AOD and the lowest levels reaching 5.50m AOD to the southeast. The site has a gradual fall; however, the lower levels are influenced by the skate park which is set 1.0m below site levels. There is a mound of earth that separates majority of the site to the skate park.

2.5. The survey did not locate any open bodies of water, watercourses, swales or ditches (wet or dry).

GEOLOGICAL CHARACTERISTICS

2.6. A Phase 2 Geo-Environmental Assessment has been carried out by Create Consulting Engineers Limited in January 2024 (AW/CS/P23-2862/02 Rev A). A further ground investigation (GI) was undertaken by Ground and Water (GW) Geotechnical and Environmental Consultants in December 2025 (GWPR6764/GIR/December 2025 V1.01) and has been included as Appendix C of this report.

2.7. Both reports refer to the British Geological Survey maps which showed that the site is underlain by superficial deposits of Head. Onsite investigations further note that there are superficial deposits of Made Ground which were encountered during exploratory borehole testing.

2.8. Create Consulting's report states that the site's bedrock geology is of the Lewis Nodular Chalk Formation and GW's report states that the bedrock geology is of the Seaford Chalk Formation.

2.9. The hydrogeological characteristics of the site that were found within both reports state that the site does not fall within a Source Protection Zone and the Lewis Nodular Chalk Formation and the Seaford Chalk Formation are classified as a Principal Aquifers.

2.10. Initial infiltration testing was undertaken by Create Consulting in 2024 to establish the site's suitability in using soakaways for surface water drainage. The results of this test we favourable to the use of infiltration features on site. However, the test pits were not carried out in the location of the proposed infiltration pond, which KCC as the LLFA later requested. Further infiltration testing was undertaken by GW Consultants in December 2025 at the location of the proposed location of the

infiltration pond as per KCC's request. This report and the following drainage strategy is based on the results of the tests carried out by GW Consultants.

2.11. Infiltration testing was undertaken in accordance with the principles of BRE365. Trial Pit 2 (Appendix C) is located where the proposed infiltration pond is located. The infiltration rate in this location has been measured to range between 0.0042m/sec to 0.0050m/sec.

EXISTING DRAINAGE

2.12. Southern Water is the local sewer authority, and their sewer assets are located within and in close proximity to the site (Appendix D). A CCTV Survey (Appendix B) was undertaken by Survey Solutions in October 2025 which shows the existing private and public drainage, these have been outlined in Table 1 below.

Location	Sewer
Ordnance Road	225mm diameter foul sewer Surface water sewer (Assumed to be 450mm)
Crossing over site	225mm diameter surface water sewer

Table 1:Existing Public Sewers

3. PROPOSED DEVELOPMENT

3.1. The proposed development (Appendix A) comprises the construction of 61no. units within a 4-storey apartment block and 15no. 2 and 3 storey residential house with private gardens, associated car parking and areas of soft landscaping.

3.2. The existing car park area will be retained post development, and the spaces will be reduced from 148 spaces to 84 spaces.

4. LLFA SUDS HIERACHY

4.1. The London Plan 2021 established the SuDS hierarchy for the area of the Development which is to be used for developments in London. The different discharge methods have been listed and set out in Table 2 below according to their suitability on site.

Discharge Method	Suitability/Comment	
Store rainwater for later use	Not proposed.	
Use infiltration techniques	The GW report shows that the site has suitable geology for infiltration. Infiltration testing carried out on site shows that infiltration rates within the area the infiltration pond is proposed, range from 0.0042m/sec – 0.0050m/sec. According to the SUDS Manual this rate is considered to be very good.	
Attenuate rainwater in ponds or in open water features for gradual release	Not required.	
Attenuate rainwater by storing in tanks or sealed water features for gradual release	Not required.	
Discharge rainwater direct to a watercourse	Not required.	
Discharge rainwater to a surface water/ drain	Not required.	
Discharge rainwater to a combined sewer	Not required.	

Table 2: SuDS Drainage Hierarchy

5. DRAINAGE STRATEGY – SURFACE WATER

5.1. The proposed drainage strategy has been designed in line with the principles of the approved PTA Drainage Strategy (Appendix E) undertaken in April 2025.

5.2. The principles of the drainage strategy are as follows:

- Rainfall Data: FEH2022
- Total Site Area: 1.43 ha
- Proposed Drained Area: 0.65ha
- Design Storm Event: 1 in 100+45% CC

5.3. It is proposed for rainwater to be captured on hardstanding areas via rainwater pipes and gullies. The surface water runoff will then be transported to the infiltration pond located to the north of the site where it will infiltrate to ground at a rate of 0.005m/sec.

5.4. Causeway Flow calculations (Appendix F) have been undertaken which confirm that the infiltration basin has been sized appropriately to allow for the sufficient attenuation and infiltration for all storm events including the 1 in 100 yr event and takes into account a 45% increase in rainfall intensity to account for climate change.

5.5. The proposed detailed surface water strategy is shown on Iesis Drawing 2490-ISS-XX-00-DR-C-3000 - Proposed Drainage Plan included as Appendix G to this report. Furthermore, a catchment plan outlining the areas each part of the drainage is serving has been included as Appendix H of this report.

5.6. Ground water levels have been assessed, and in accordance with the guidance provided in the Ciria C753 SuDS Manual which outlines that a minimal distance of 1m must be kept between the base of the infiltrating structure and the maximum likely groundwater level. The drainage design ensures that this requirement is met and fulfilled as the invert of the proposed basin is 6.50m and the maximum likely groundwater level according to the Create Consulting report is 7.00m BGL.

5.7. The PTA drainage strategy (Appendix E) showcases where surface water runoff flows towards in an exceedance event. The levels within Iesis' design remain the same as PTA's design, which ensured that surface water is directed towards low points away from buildings where gullies are proposed and towards the infiltration basin. Therefore, the exceedance flows outlined in PTA's strategy are applicable to Iesis' drainage design. An offline filter drain has been included in the Iesis Drainage Plan (Appendix G), which has been designed to intercept the exceedance flows at a low point and redirect them towards the basin.

5.8. Furthermore, the GW GI report states that due to the geological makeup of the site and the chalk found onsite being of low density, soakaway features should be offset by 10m from the nearest foundations. This point has been taken into account in the drainage strategy and has been reflected in Iesis Drainage Plan.

6. WATER QUALITY

6.1. Appropriate treatment of surface water runoff will be implemented within the drainage system to ensure that water being released to the public sewer is of an appropriate standard and in line with the CIRIA SuDS Manual. This will be achieved through incorporating a lined filter drain within the car park to capture and filter runoff before it discharges to the infiltration pond. Catch pits and trap gullies will also be incorporated within the system to ensure discharge is appropriately treated.

6.2. Table 3 below shows the pollution hazard level of the proposed development compared to the mitigation indices that are provided by the proposed SuDS features. It can be noted from the table that the proposed SuDS features have the appropriate mitigation indices to treat the pollutants present in runoff generated onsite.

Land Use	**Pollution Hazard Level**	**Total Suspended Solids (TSS)**	**Metals**	**Hydrocarbons**
Residential Roads	Very Low	0.2	0.2	0.05
Individual property driveways, residential car parks, low traffic roads and non-residential car parking with infrequent change	Low	0.5	0.4	0.4
SuDs feature	**Mitigation Indices**			
Filter drain		0.4[2]	0.4	0.4
Infiltration Pond		0.7[3]	0.7	0.5

Table 3:Pollution Mitigation Index

7. DRAINAGE STRATEGY – FOUL WATER

7.1. According to the approved PTA drainage strategy, the foul drainage will discharge by gravity to the Southern Water 225mm diameter foul water sewer located on Ordnance Road via MH3001.

8. SUDS MAINTENANCE AND MANAGEMENT

8.1. The onsite drainage networks and SuDS will be privately managed and maintained for the lifetime of the development to ensure they remain functional and fit for purpose to the standard they were designed to. The management company and operator will be appointed post planning.

8.2. The tables 4-6 below show the proposed maintenance schedule for each feature in accordance to the CIRIA Report C753, The SuDS Manual, 2015.

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove litter and debris	Monthly or as required
Occasional Maintenance	Monitoring	Inspect monthly
Remedial Actions	Sediment management	As required
Monitoring	Structure rehabilitation/repair	As required

Table 4: CIRIA Operation & Maintenance Table for traditional drainage components

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove litter (including leaf litter) and debris for filter drain surface, access chambers and pre-treatment devices	Monthly or as required
	Inspect filter drain surface, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage	Monthly
	Inspect pre-treatment systems, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequencies	Six monthly
	Remove sediment from pre-treatment devices	Six monthly (or as required)
Occasional Maintenance	Remove or control tree roots where they are encroaching the sides of the filter drain	As required
	At location with high pollution loads, remove surface geotextile and replace, and wash or replace overlying filter medium	Five yearly, or as required
	Clear perforated pipework of blockages	As required

Table 5: CIRIA Operation & Maintenance Table for filter drains

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove litter and debris	Monthly or as required
	Cut grass - for landscaped areas and access routes	Monthly (during growing season) or as required
	Cut grass - meadow grass in and around basin	Half yearly: spring (before nesting season) and autumn
	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
Occasional Maintenance	Reseed areas of poor vegetation growth	Annually, or as required
	Prune and trim trees and remove cuttings	As required

	Remove sediment from pre-treatment system when 50% full	As required
Remedial Actions	Repair erosion or other damage by reseeding or re-turfing	As required
	Realign the rip rap	As required
	Repair or rehabilitate inlets, outlets and overflows	As required
	Rehabilitate infiltration surface using scarifying and spiking techniques if performance deteriorates	As required
	Relevel uneven surfaces and reinstate design levels	As required
Monitoring	Inspect inlets, outlets and overflows for blockages and clear if required	Monthly
	Inspect banksides, structures, pipework etc for evidence of physical damage	Monthly
	Inspect inlets and pre-treatment systems for silt accumulation; establish appropriate silt removal frequencies	Half yearly
	Inspect infiltration surfaces for compaction and ponding	Monthly

Table 6: CIRIA Operation & Maintenance Table for Infiltration Basin

9. CONCLUSION

The proposed SuDS strategy utilises an infiltration basin as the main SuDS component to discharge surface water runoff.

Sufficient storage volume has been provided within the drainage system to accommodate the critical '1 in 100 year plus 45% climate change' event. The drainage strategy layout is illustrated in Appendix F and the hydraulic calculations are outlined in Appendix E.

Appropriate treatment would be incorporated into the surface water drainage system to ensure that the quality of water discharged is acceptable.

The proposed drainage network and SuDS would be privately managed and maintained for the lifetime of the development, ensuring that they remain fit for purpose and function appropriately. The management company/operator would be appointed post-planning.

APPENDIX A – PROPOSED SCHEME

00
1B2P
1B2P M4(3)
2B4P_Galloway
3B5P_Lewis
3B6P_Walbury
4B7P_Type 01
Cleaners St.
Cycle Store 1
Entrance
Mech Smoke Shaft
Natural Smoke Shaft
Plant
Potential Site Substation
Refuse
Riser 1
Riser 2
Riser 3
Riser 4
Stair 1
Stair 2
Wardens Room

Site Ownership Boundary
Gun Sight Lines

Notes

Do not scale from this drawing.
All contractors must visit the site and be responsible for taking and checking dimensions.
All construction information should be taken from figured dimensions only.
Any discrepancies between drawings, specifications and site conditions must be brought to the attention of the supervising officer.
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This drawing is prepared for the specific project stage in the Drawing Status section below and it is not intended to be used for any other purpose. Whilst all reasonable efforts are used to ensure drawings are accurate, JTP accept no liability for any reliance placed on, or use made of, this plan by anyone for purposes other than those stated in the Drawing Status below.

84 spaces
Proposed Attenuation Basin
NO ENTRY
SCHOOL KEEP CLEAR
T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 T22 T23 T24 T25 T26 T27 T28 T29 T30 T31 T32 T33 T34 T35 T36 T37 T38 T39 T40 T41 T42 T43 T44 T45 T46 T47 T48 T49 T50 T51 T52 T53 G54
01 Garden 77.17 m²
02 Garden 50.81 m²
03 Garden 62.19 m²
04 Garden 96.12 m²
05 Garden 55.58 m²
06 Garden 49.19 m²
07 Garden 64.05 m²
08 Garden 65.90 m²
09 Garden 77.16 m²
10 Garden 91.86 m²
11 Garden 71.01 m²
12 Garden 72.59 m²
13 Garden 83.86 m²
14 Garden 63.01 m²
15 Garden 79.53 m²
IL 08 IL 07 IL 06 IL 05 IL 04 IL 03 IL 02 IL 01

Rev	Date	Description	Drawn	Chkd
P3	02.06.25	Third Issue	SDH	DF
P2	16.05.25	Second Issue	JTP	MM
P1	21.02.25	Planning Submission	JTP	MM

Drawing Status
Planning

Client
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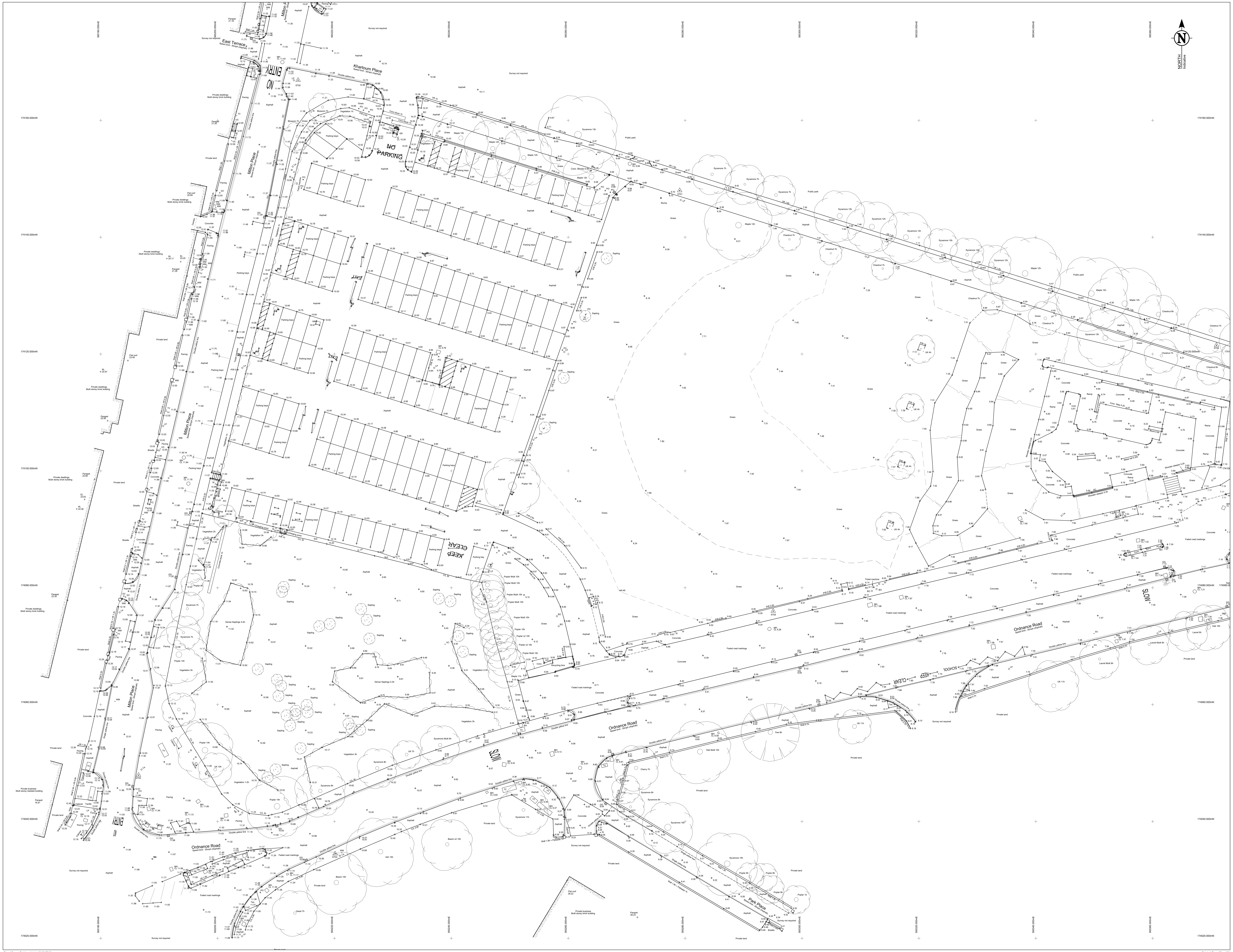
Project
Milton Place

Drawing Title
Sitewide GA Plan - Level 00

Drawing No.
02324-JTP-MP-00-DR-A-10001

Scale @A2 1 : 500 Job Ref. 02324
Drawing No. 10001
Scale Bar 0 5 10 15 m
Revision. P3

APPENDIX B – TOPOGRAPHICAL & CCTV SURVEY



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Original Sheet Size A0H

TOPOGRAPHICAL & MEASURED BUILDING SURVEYS

ABBREVIATIONS & SYMBOLS

AH	Arch Head Height	ER	Earth Rod	RSD	Roller Shutter Door
A/B	Air Brick	ET	EP+Transformer	RSJ	Rolled Steel Joist
AR	Assumed Route	FB	Flower Bed	SI	Sign Post
AV	Air Valve	FBD	Floor Board Direction	SP	Arch Spring Point Height
BB	Belisha Beacon	FH	Fire Hydrant	SV	Stop Valve
BH	Bore Hole	FL	Floor Level	SW	Surface Water
BL	Bed Level	FP	Flag Pole	SY	Cable Stay
BO	Bollard	FW	Foul Water	Tac	Tactile Paving
BrP	Brace Post	GG	Gully Grate	TC	Telecom Cover
BS	Bus Stop	GV	Gas Valve	TH	Trial Pit
BU	Bush	HH	Head Height	THL	Threshold Level
B/W	Barbed Wire Fence	IC	Inspection Cover	TL	Traffic Light
BX	Box (Utilities)	IL	Invert Level	ToW	Top of Wall
C/B	Close Board Fence	I/R	Iron Railings	TP	Telegraph Pole
CH	Cill Height	KO	Kerb Outlet	TS	Traffic Signal Cover
CL	Cover Level	LP	Lamp Post	TV	Cable TV Cover
C/L	Chain Link Fence	MH	Manhole	UB	Universal Beam
C-Lev	Ceiling Level	MP	Marker Post	UC	Unknown Cover
Col	Column	NB	Name Board	UK	Unknown Tree
C/P	Chestnut Paling Fence	OHL	Overhead Line (approx)	UMG	Unmade Ground
CR	Cable Riser	Pan	Panel Fence	USB	Under Side Beam
C/W	Chicken Wire	PB	Post Box	UTL	Unable To Lift
DC	Drainage Channel	PM	Parking Meter	UTS	Unable To Survey
DH	Door Head Height	PO	Post	VP	Vent Pipe
Dil.	Dilapidated	P/R	Post & Rail Fence	WB	Waste Bin
DP	Down Pipe	P/W	Post & Wire Fence	WH	Weep Hole
DR	Drain	P/Wall	Partition Wall	WL	Water Level
EBx	Electric Box	RE	Rodding Eye	WM	Water Meter
EC	Electric Supply Cover	RL	Ridge Level	WO	Wash Out
EL	Eaves Level	RP	Reflector Post	(x.xx)	Floor to Ceiling Height
EP	Electric Pole	RS	Road Sign	(x.xx)F/C	Floor to False Ceiling Ht
				△	Survey Control Station

DRAWING NOTES

Topographical Surveys

Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.

All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.

All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including; sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.

Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.

Surveyed physical features may not necessarily represent the legal boundary line.

Measured Building Surveys

Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.

Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

General

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.

The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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Do not scale from this drawing.

SURVEY CONTROL CO-ORDINATES

STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	565279.071	174147.986	8.665	PK Nail
ST02	565213.771	174166.881	11.436	PK Nail
ST03	565186.475	174047.928	12.013	PK Nail
ST04	565220.102	174034.465	10.835	PK Nail
ST05	565295.072	174076.007	8.341	PK Nail
ST06	565413.435	174085.702	7.212	PK Nail
ST07	565420.572	174108.169	6.520	PK Nail
ST08	565370.915	174121.519	5.996	PK Nail

SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.

The level datum established for this survey is related to Ordnance Survey (OS) using GPS Smartnet.

To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

REV	DESCRIPTION	DRAWN	APPR	DATE

SURVEY SOLUTIONS

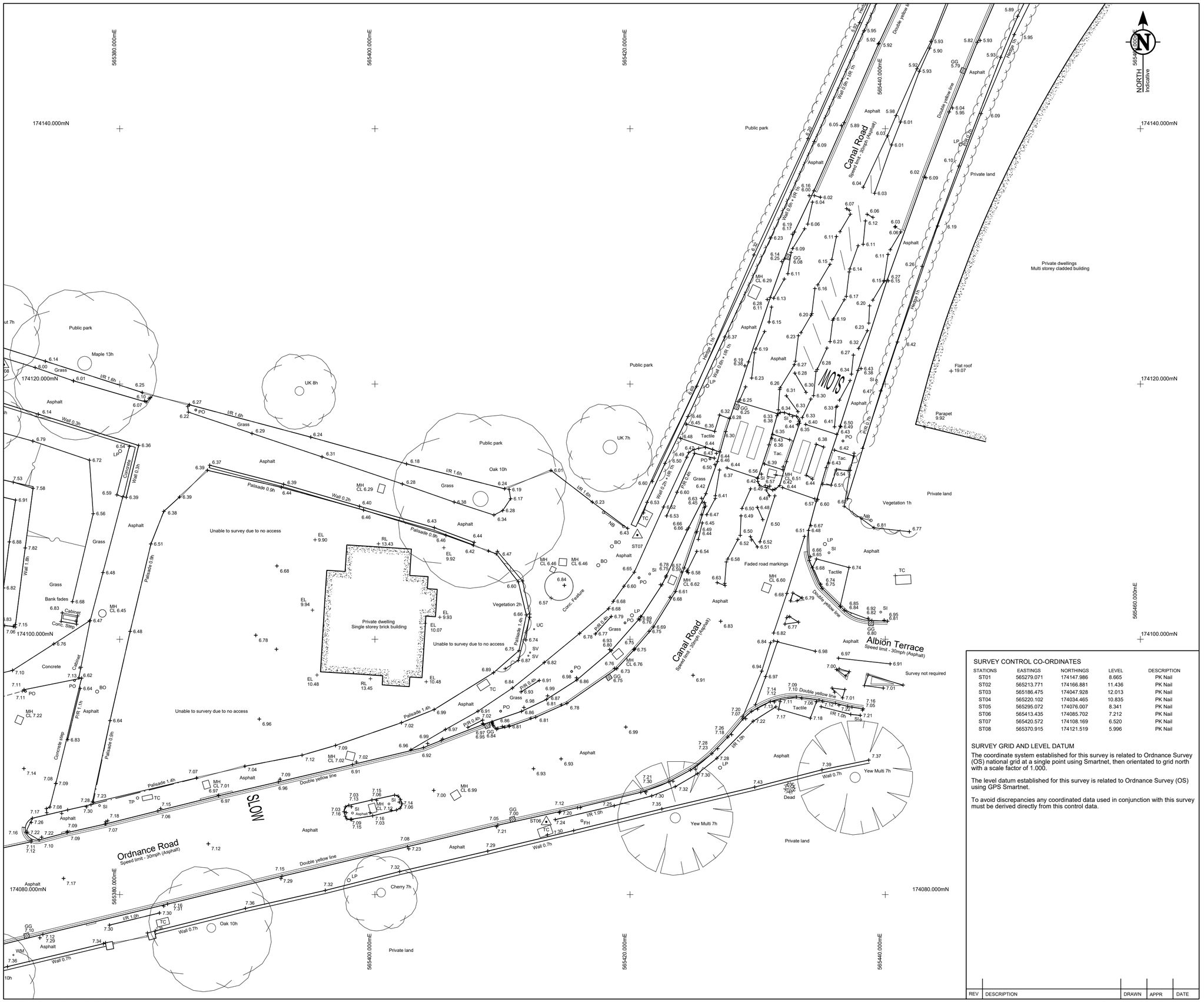
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PROJECT TITLE MILTON PLACE CAR PARK, GRAVESHAM, KENT, DA12 2PQ				
DRAWING DETAIL TOPOGRAPHICAL SURVEY Sheet 1 of 2				
CLIENT THE HILL GROUP				SCALE 1:200
SURVEYOR GB	SURVEY DATE 13/04/2023	CHECKED BY RH	APPROVED BY ADK	DWG STATUS FINAL
DRAWING NUMBER 47661BWLS-01			REVISION	ISSUE DATE 25/04/2023

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TOPOGRAPHICAL & MEASURED BUILDING SURVEYS

ABBREVIATIONS & SYMBOLS

AH	Arch Head Height	ER	Earth Rod	RSD	Roller Shutter Door
A/B	Air Brick	ET	EP+Transformer	RSJ	Rolled Steel Joist
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EBx	Electric Box	RE	Rodding Eye	WM	Water Meter
EC	Electric Supply Cover	RL	Ridge Level	WO	Wash Out
EL	Eaves Level	RP	Reflector Post	2.50	Floor to Ceiling Height
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General

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The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.

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Do not scale from this drawing.

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PROJECT TITLE
MILTON PLACE CAR PARK, GRAVESHAM, KENT, DA12 2PQ

DRAWING DETAIL
TOPOGRAPHICAL SURVEY
Sheet 2 of 2

CLIENT				SCALE
THE HILL GROUP				1:200
SURVEYOR	SURVEY DATE	CHECKED BY	APPROVED BY	DWG STATUS
GB	13/04/2023	RH	ADK	FINAL
DRAWING NUMBER		REVISION		ISSUE DATE
47661BWLS-02				25/04/2023

RICS chartered ices THE SURVEY ASSOCIATION
ISO 14001 : 2015 REGISTERED

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Original Sheet Size A2H

PAS 128:2022 QUALITY LEVEL GUIDE

Q-LEVEL	DESCRIPTION	ACCURACY	Q-LEVEL	DESCRIPTION	ACCURACY
QL-D	Service positions taken from records.	Undefined	QL-B2	Horizontal & Vertical location using either GPR and/or EML.	H:±250mm V:40%
QL-C	Visual evidence of service existence but undetectable by geophysical technology.	Undefined	QL-B1	Horizontal & Vertical location using either GPR and/or EML.	H:±150mm V:15%
QL-B4	Undetectable service present shown as an assumed route (AR).		QL-A	Horizontal & Vertical location verification by open excavation, manholes and/or inspection chambers.	
QL-B3	Horizontal & Vertical location using either GPR and/or EML.	H:±500mm V:N/A			

NORTH Indicative

DETECTION METHOD
IN ACCORDANCE WITH PAS 128: 2022 SURVEY TYPE B

DRAINAGE SURVEY
All accessible Manholes and Inspection chambers have had their respective covers lifted with pipe sizes, inverts, chamber sizes/types and service data recorded from ground level. All connections from DPs, Gullies, Drains, VP's, RE's and lampholes have been proven wherever possible using audible connections (AC) and/or sonde instrumentation where applicable. Where these methods have proved unsuccessful then assumed (AR) straight line connections will be shown.

CCTV DRAINAGE SURVEY
All accessible Manholes and Inspection chambers have had their respective covers lifted with pipe sizes, inverts, chamber sizes/type and service data recorded from ground level. Pipework has been traced, accessed and collected for post processing. Drainage layout, including manhole covers not located by topographical survey, may be taken from CCTV chainage and will be shown as indicative only.

Electricity
Elec cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required.

British Telecoms
BT cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required. Due to current laws and legislation protecting all BT apparatus, cabling can only be located remotely. We therefore compare all our telecom findings against record information to produce the final service layout. In some instances, where high amount of cable ducts are present, we may only be able to identify a linear centre peak signal rather than identifying all the individual duct positions. For further information regarding Telecoms apparatus, please contact Openreach directly.

Cable TV & Communications
CTV and/or Com cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required.

Fibre Optic
FO cables will have been predominantly located using GPR methodology. This is due to the materials used within fibre optic cabling. In some rare instances, tracer cabling or conductible non fibre optic cabling will be present within some or all ducting. When this is the case, both EML and GPR methodology will be combined to identify service network and achieve greater quality levels.

Lighting, Traffic Signal & Security Cables
LC, TS and/or Sec cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required.

Gas & Water Inc. Fuel Pipes and Hot Water Pipes
GM/GS and/or WM/WS pipe work will have been attempted and located using both EML & GPR methodology with electronically derived depths shown for the former and depths to crown levels shown for the latter.
When the Gas/Water pipe work is constructed using conductible materials, then we are able to to employ multiple geophysical techniques to identify service network and achieve greater quality levels. When a non conductible material is used, GPR methodology will be employed to locate and plot the final service layout.

Ground Penetrating Radar
GPR methodology is used to identify and locate all non metallic, non conductible piping and cabling. We also employ GPR to obtain a greater accuracy levels on EML located services. The GPR has a greater success rate on pipe or service diameter upward of Ø63mm, as size increments increase, so does the chance of detection. The GPR can produces varying results and as such, wouldn't be used as an independent utility surveying instrument.

Unidentified Traces
All UITs will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required. Every effort has been made to identify the service but in this instance, is not achievable. We recommend excavation work to determine identity and depth where applicable.

Scarring (QL-C)
Scarring has been identified on site with a potential of an undetectable service present.

Assumed Routes & Taken from Records (QL-B4/D)
Assumed routes (AR) are shown if there is evidence that a service exists but we are unable to trace it whilst on site. The surveyor will attempt to locate various risers/ics/valves/meters (service evidence) etc. around site area to successfully determine an assumed route between these points. If there is little evidence on site but they believe a service is still present, then a common sense approach to an assumed route shall be employed.

GENERAL SYNOPSIS

This survey has been carried out in accordance with PAS 128: 2022 & our version of the Royal Institution of Chartered Surveyors (RICS) specification for Measured Surveys of Land, Buildings and Utilities. Our survey extents have been agreed and confirmed with formal acceptance of 78621BWUG from The Hill Group If you have any queries regarding the final services layout, please may we ask you to carefully read all the information within this title block in its entirety before continuing to do so.

TOPOGRAPHICAL DRAWING INFORMATION

Survey Type	Supplied By	Date	Effect on survey results
Topo	Client	Unknown	

GENERAL SITE CONDITIONS
AVERAGE

ADDITIONAL INFORMATION	EFFECT ON SURVEY RESULTS

DESKTOP UTILITY RECORDS (PAS 128: 2022 SURVEY TYPE D)
PREREQUISITE FOR PAS 128: 2022 SURVEY TYPE
COMISSIONED: NO

UTILITY	AVAILABILITY	UTILITY COMPANY PROVIDER
SEWER	N/A	N/A
WATER MAIN	N/A	N/A
GAS MAIN	N/A	N/A
TELECOM	N/A	N/A
CABLE TV	N/A	N/A
ELECTRICITY	N/A	N/A
OIL PIPES	N/A	N/A
FIBRE	N/A	N/A
OTHER	N/A	N/A

SURVEY RECOMMENDATIONS

An up to date topographical survey drawing to overlay PAS utility information onto.

We recommend a PAS utility survey of the entire site to establish the position of underground services.

The areas of dense vegetation to be cleared to allow access if any of these areas are deemed critical or of high importance.

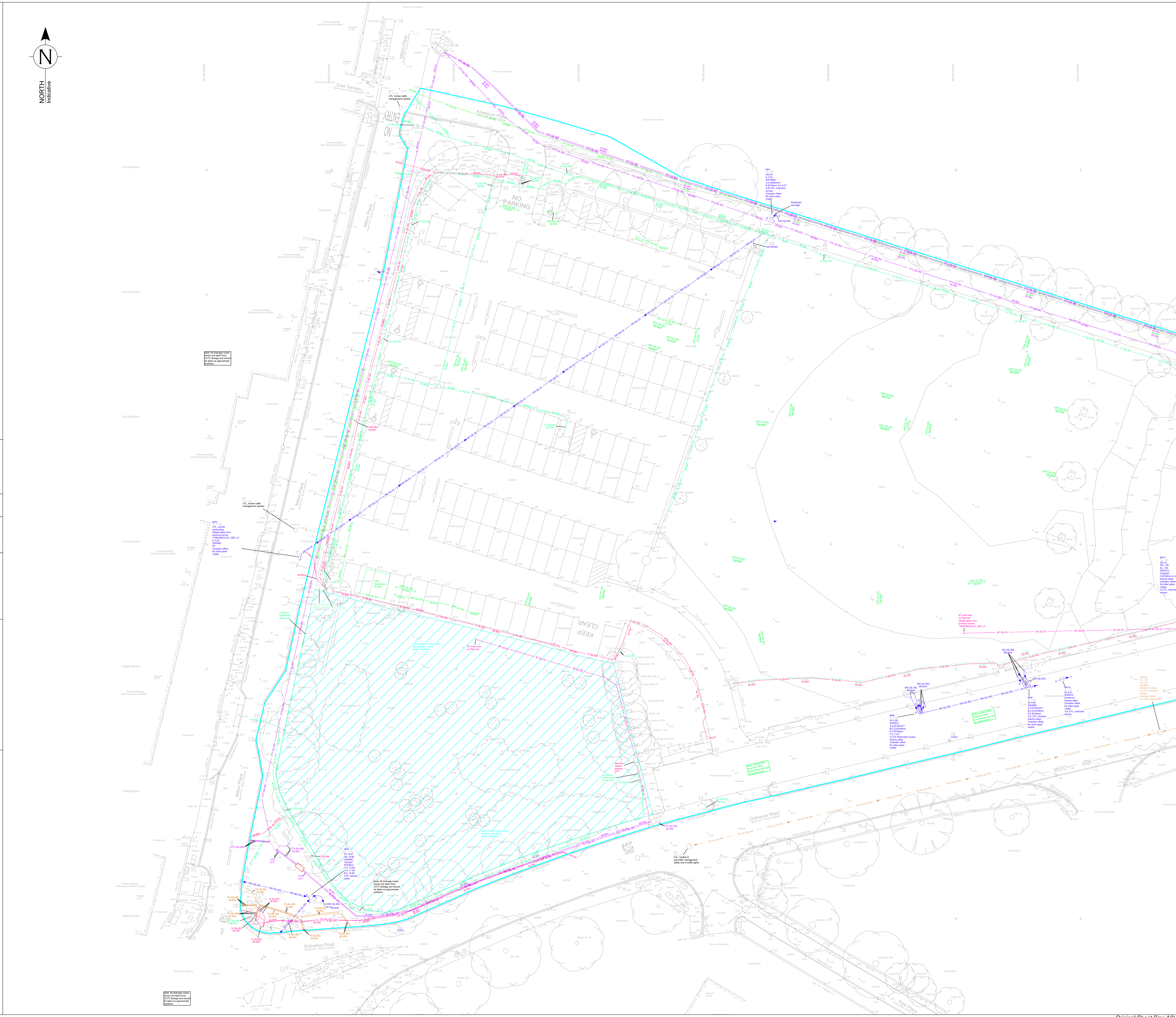
To undertake a CCTV drainage survey of the entire site area to establish a more comprehensive drainage network, and asset condition of the pipework.

The sewers with high levels of silt or blockages to be jetted to extend the CCTV drainage survey, if any of these areas are deemed critical or of high importance.

We recommend full statutory record information be obtained to confirm site findings and to position undetectable sevices which may be present.

Due to the geophysical nature of subsurface technology, we always recommend excavation works to be carried out within critical areas for verification and to eliminate the possibility of undetectable services present.

Due to the size of the pipework, circa 300mm dia and above, a specialist crawler system camera would be required for a more detailed mapping of the drainage network.



UTILITIES & UNDERGROUND INVESTIGATIONS
ABBREVIATIONS & SYMBOLS

1D 5C	1 Duct 5 Cables	DCr	Depth To Crown	RBC	Rectangular Brick Chamber
Ø	Diameter	DI	Depth To Invert	RCC	Rectangular Conc Chamber
AC	Audible Connection	DS	Depth To Silt	RE	Rodding Eye
AG	Above Ground	DTB	Depth To Base	SA	Survey Abandoned
AR	Assumed Route	DTW	Depth To Water	SL	Silt Level
BL	Base Level	DTS	Depth To Surcharge	SuL	Surcharge Level
CB	Concrete Benching	EBD	External Backdrop	TFR	Taken From Records
CBC	Circular Brick Chamber	EOT	End Of Trace	UTC	Unable To CCTV
CCC	Circular Conc Chamber	IBD	Internal Backdrop	UTDO	Unable To Determine Outfall
CL	Cover Level	IL	Invert Level	UTL	Unable To Lift
CPC	Circ Plastic Chamber	OH	Overhead	UTS	Unable To Survey
CrL	Crown Level	PDR	Poor Depth Response	UTT	Unable To Trace
CU	Camera Under Water	RB ●	Rest Bend	WL	Water Level

BT CABLE(S)
OVERHEAD BT CABLE(S)
COMMUNICATIONS CABLE(S)
CABLE TV CABLE(S)
EMPTY DUCT
ELECTRIC CABLE(S)
OVERHEAD ELECTRIC CABLE(S)
FIBREOPTIC CABLE(S)
FUEL PIPE(S)
GAS MAIN
GAS SERVICE
GROUND PENETRATING RADAR (GPR) TRACE
HOT WATER PIPE
LIGHTING CIRCUIT
OIL PIPE(S)
VISIBLE SCARRING
SECURITY CABLING
TELECOM CABLE(S)
TRAFFIC SIGNAL
UNIDENTIFIED SERVICE
UNIDENTIFIED TRACE
WATER MAIN
WATER SERVICE
COMBINED SEWER
COMBINED WATER RISING MAIN
EFFLUENT WATER
FOUL SEWER
FOUL WATER RISING MAIN
RISING MAIN
SURFACE WATER SEWER
SURFACE WATER RISING MAIN
INVESTIGATION EXTENTS

Note: .... UTILITIES COMMENT BOX (GENERAL NOTES)
d0.37m DEPTH TO SERVICE
AUDIBLE CONNECTION
SERVICE ABOVE GROUND
CAMERA UNDER WATER
SERVICE OVERHEAD

NORTH Indicative

DRAWING NOTES

All below ground details shown have been identified from above ground without excavation. Survey Solution uses electro-magnetic and/or ground penetrating radar (GPR) methods to investigate for underground utilities, services and features. Results using these methods are not infallible and we recommend trial excavations are carried out for verification of positions, depths and identification.

Any areas on the drawing where services or features have not been shown are not necessarily clear of services or features but are an indication that no items have been identified during our investigations. All reasonable care and normal good practice should still be employed during design and construction processes.

Certain types of services such as plastic or concrete pipes, some conduit and ducting where direct access can not be achieved for tracing may not be shown and alternative locating methods should be used.

Survey Solutions has used all reasonable care to research available service records but the completeness or use of the service records supplied to or by Survey Solutions cannot be guaranteed. Therefore Survey Solutions cannot be held responsible for any features annotated as (QL-D).

Depths obtained using electro-magnetic or GPR are effected by ground conditions and should be treated as indicative only. Electro-magnetic depths to utilities and services are generally taken to the centre of a feature, GPR depths to the top of a feature and drainage depth shown to inverts, unless otherwise indicated.

Drainage pipe sizes will be obtained without entering the chamber and therefore should be treated as approximate. Pipe dimensions which have not been obtained visually will be taken from records when available.

All services, drainage and utilities routes are assumed straight between access points, unless otherwise stated. The numbers of cables in runs will not be shown unless specifically requested. All services are below ground unless indicated.

Services, utilities and features may not have been surveyed if obstructed or not reasonably visible or accessible at the time of survey.

Survey Solutions accept no responsibility for the completeness or accuracy of either the topographical survey or base mapping on this project.

All critical dimensions and measurements should be checked and verified with any errors or discrepancies notified to Survey Solutions immediately. The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.

The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work.

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This drawing should only be scaled using digital methods.

REV	DESCRIPTION	DRAWN	APPR	DATE

PROJECT TITLE
MILTON PLACE, MILTON, GRAVESEND, DA12.

DRAWING DETAIL
UTILITIES AND CCTV DRAINAGE SURVEY
SHEET 1 OF 2

CLIENT				SCALE
THE HILL GROUP				1:200
SURVEYOR	SURVEY DATE	CHECKED BY	APPROVED BY	DWG STATUS
TJRR/SD	30/09/2025	DA	DA	FINAL
DRAWING NUMBER			REVISION	ISSUE DATE
78621BWUG-01				06/10/2025

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Original Sheet Size A0H

PAS 128:2022 QUALITY LEVEL GUIDE					
QL-D (QL)	DESCRIPTION	ACCURACY	QL-LEVEL	DESCRIPTION	ACCURACY
QL-D	Service positions taken from records	Undefined	QL-B2	Horizontal & Vertical location using other point data.	+/-300mm / +/-5%
QL-C	Visual evidence of service evidence but unidentified & unconfirmed assessment	Undefined	QL-B1	Horizontal & Vertical location using other point data.	+/-150mm / +/-5%
QL-B4	Undetectable service present shown as an assumed route only		QL-A	Horizontal & Vertical location verification using trial excavation, trial excavation, trial excavation interface.	
QL-B3	Horizontal & Vertical location using other point data only	+/-300mm / +/-5%			

DETECTION METHOD

IN ACCORDANCE WITH PAS 128: 2022 SURVEY TYPE B

DRAINAGE SURVEY

All accessible Manholes and Inspection chambers have had their respective covers lifted with pipe sizes, inverts, chamber sizes/types and service data recorded from ground level. All connections from DPs, Gullies, Drains, VP's, RE's and lampholes have been proven wherever possible using audible connections (AC) and/or sonde instrumentation where applicable. Where these methods have proved unsuccessful then assumed (AR) straight line connections will be shown.

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Electricity

Elec cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required.

British Telecoms

BT cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required. Due to current laws and legislation protecting all BT apparatus, cabling can only be located remotely. We therefore compare all our telecom findings against record information to produce the final service layout. In some instances, where high amount of cable ducts are present, we may only be able to identify a linear centre peak signal rather than identifying all the individual duct positions. For further information regarding Telecoms apparatus, please contact Openreach directly.

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FO cables will have been predominantly located using GPR methodology. This is due to the materials used within fibre optic cabling. In some rare instances, tracer cabling or conductible non fibre optic cabling will be present within some or all ducting. When this is the case, both EML and GPR methodology will be combined to identify service network and achieve greater quality levels.

Lighting, Traffic Signal & Speed Indication

LC, TS and/or Sec cables will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required.

Gas & Water Inc. Fuel Pipes and Hot Water Pipes

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Ground Penetrating Radar

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Unidentified Traces

All UITs will have been predominantly located using EML methodology with electronically derived depths shown. GPR techniques will be employed to achieve greater quality levels as required. Every effort has been made to identify the service but in this instance, is not achievable. We recommend excavation work to determine identity and depth where applicable.

Scarring (QL-C)

Scarring has been identified on site with a potential of an undetectable service present.

Assumed Routes & Taken from Records (QL-B4/D)

Assumed routes (AR) are shown if there is evidence that a service exists but we are unable to trace it whilst on site. The surveyor will attempt to locate various risers/cs/valves/meters (service evidence) etc. around site area to successfully determine an assumed route between these points. If there is little evidence on site but they believe a service is still present, then a common sense approach to an assumed route shall be employed.

GENERAL SYNOPSIS

This survey has been carried out in accordance with PAS 128: 2022 & our version of the Royal Institution of Chartered Surveyors (RICS) specification for Measured Surveys of Land, Buildings and Utilities. Our survey extents have been agreed and confirmed with formal acceptance of 78621BWUG from The Hill Group if you have any queries regarding the final services layout, please may we ask you to carefully read all the information within this title block in its entirety before continuing to do so.

TOPOGRAPHICAL DRAWING INFORMATION

Survey Type	Supplied By	Date	Effect on survey results
Topo	Client	Unknown	

GENERAL SITE CONDITIONS

AVERAGE

ADDITIONAL INFORMATION	EFFECT ON SURVEY RESULTS

DESKTOP UTILITY RECORDS (PAS 128: 2022 SURVEY TYPE D) PREREQUISITE FOR PAS 128: 2022 SURVEY TYPE COMISSIONED: NO

UTILITY	AVAILABILITY	UTILITY COMPANY PROVIDER
SEWER	N/A	N/A
WATER MAIN	N/A	N/A
GAS MAIN	N/A	N/A
TELECOM	N/A	N/A
CABLE TV	N/A	N/A
ELECTRICITY	N/A	N/A
OIL PIPES	N/A	N/A
FIBRE	N/A	N/A
OTHER	N/A	N/A

SURVEY RECOMMENDATIONS

An up to date topographical survey drawing to overlay PAS utility information onto.

We recommend a PAS utility survey of the entire site to establish the position of underground services.

The areas of dense vegetation to be cleared to allow access if any of these areas are deemed critical or of high importance.

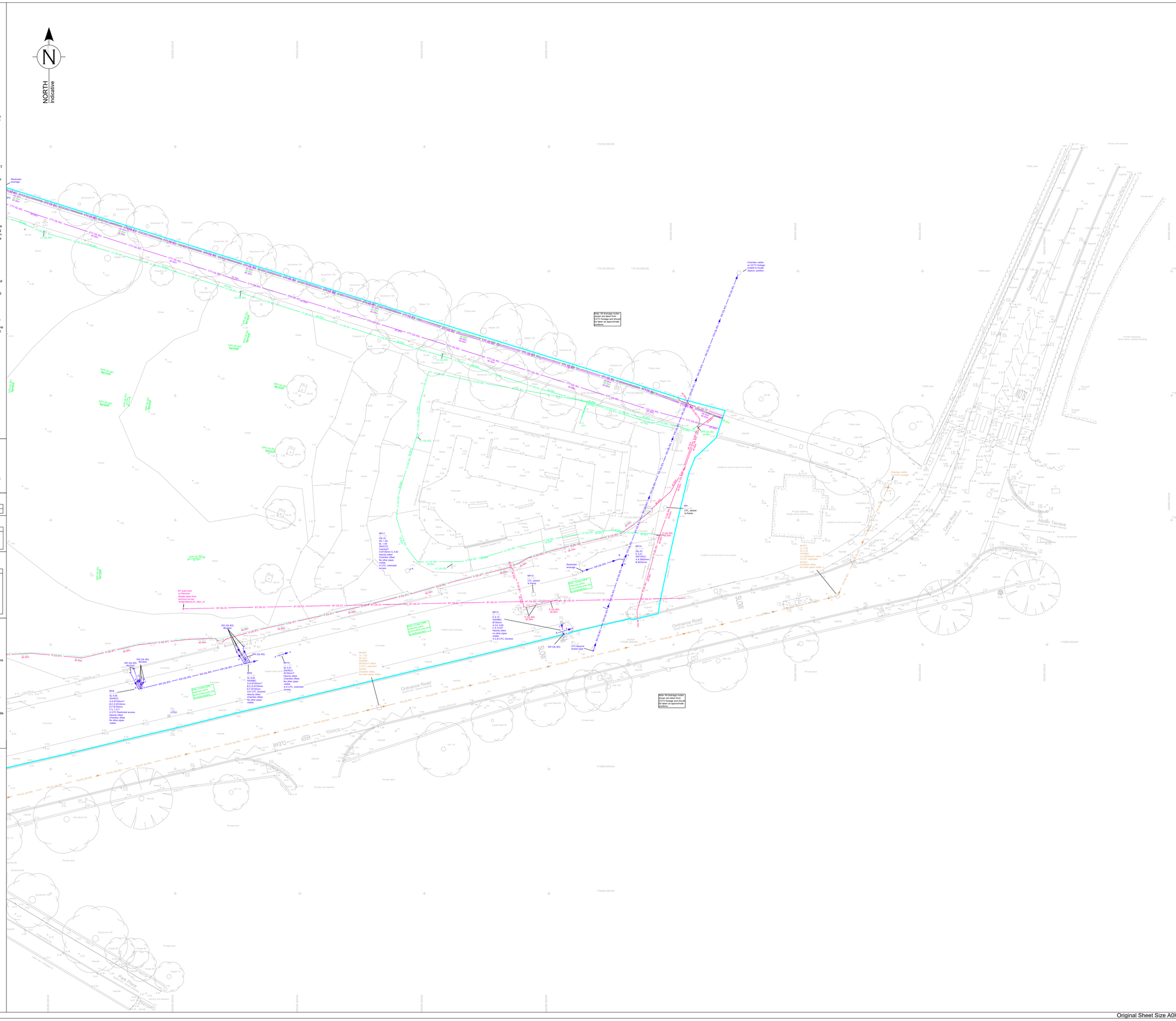
To undertake a CCTV drainage survey of the entire site area to establish a more comprehensive drainage network, and asset condition of the pipework.

The sewers with high levels of silt or blockages to be jetted to extend the CCTV drainage survey, if any of these areas are deemed critical or of high importance.

We recommend full statutory record information be obtained to confirm site findings and to position undetectable services which may be present.

Due to the geophysical nature of subsurface technology, we always recommend excavation works to be carried out within critical areas for verification and to eliminate the possibility of undetectable services present.

Due to the size of the pipework, circa 300mm dia and above, a specialist crawler system camera would be required for a more detailed mapping of the drainage network.



UTILITIES & UNDERGROUND INVESTIGATIONS

ABBREVIATIONS & SYMBOLS

10 SC	1 Out 5 Cables	DOI	Depth To Crown	RBC	Rectangular Brick Chamber
Ø	Diameter	DI	Depth To Invert	RCC	Rectangular Conc Chamber
AC	Audible Connection	DS	Depth To Silt	RE	Robbing Eye
AG	Above Ground	DTB	Depth To Base	SA	Survey Abandoned
AR	Assumed Route	DTW	Depth To Water	SL	Silt Level
BL	Base Level	DTS	Depth To Surcharge	SuL	Surcharge Level
CB	Concrete Benching	EBD	External Backdrop	TFR	Taken From Records
CBC	Circular Brick Chamber	EOT	End Of Trace - >4	UTC	Unable To CCTV
CCC	Circular Conc Chamber	IBD	Internal Backdrop	UTDO	Unable To Determine Outfall
CL	Cover Level	IL	Invert Level	UTL	Unable To Lift
CPC	Cim Plastic Chamber	OHL	Overhead	UTS	Unable To Survey
CVL	Crown Level	PDR	Poor Depth Response	UTT	Unable To Trace
CU	Camera Under Water - >	RB●	Rod Bend	WL	Water Level

BT CABLE(S)
OVERHEAD BT CABLE(S)
COMMUNICATIONS CABLE(S)
CABLE TV CABLE(S)
EMPTY DUCT
ELECTRIC CABLE(S)
OVERHEAD ELECTRIC CABLE(S)
FIBREOPTIC CABLE(S)
FUEL PIPE(S)
GAS MAIN
GAS SERVICE
GROUND PENETRATING RADAR (GPR) TRACE
HOT WATER PIPE
LIGHTING CIRCUIT
OIL PIPE(S)
SECURITY WIRING
SECURITY CABLING
TELECOM CABLE(S)
TRAFFIC SIGNAL
UNIDENTIFIED SERVICE
UNIDENTIFIED TRACE
WATER MAIN
WATER SERVICE
COMBINED SEWER
COMBINED WATER RISING MAIN
EFFLUENT WATER
FOUL SEWER
FOUL WATER RISING MAIN
SEWER OVERFLOW
SURFACE WATER SEWER
SURFACE WATER RISING MAIN
INVESTIGATION EXTENTS

Note: UTILITIES COMMENT BOX (GENERAL NOTES)
DEPTH TO SERVICE
AUDIBLE CONNECTION
SERVICE ABOVE GROUND
CAMERA UNDER WATER
SERVICE OVERHEAD

DRAWING NOTES

All below ground details shown have been identified from above ground without excavation. Survey Solution uses electro-magnetic and/or ground penetrating radar (GPR) methods to investigate for underground utilities, services and features. Results using these methods are not infallible and we recommend trial excavations are carried out for verification of positions, depths and identification.

Any areas on the drawing where services or features have not been shown are not necessarily clear of services or features but are an indication that no items have been identified during our investigations. All reasonable care and normal good practice should still be employed during design and construction processes.

Certain types of services such as plastic or concrete pipes, some conduit and ducting where direct access can not be achieved for tracing may not be shown and alternative locating methods should be used.

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Depths obtained using electro-magnetic or GPR are effected by ground conditions and should be treated as indicative only. Electro-magnetic depths to utilities and services are generally taken to the centre of a feature, GPR depths to the top of a feature and drainage depth shown to inverts, unless otherwise indicated.

Drainage pipe sizes will be obtained without entering the chamber and therefore should be treated as approximate. Pipe dimensions which have not been obtained visually will be taken from records when available.

All services, drainage and utilities routes are assumed straight between access points, unless otherwise stated. The numbers of cables in runs will not be shown unless specifically requested. All services are below ground unless indicated.

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The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work.

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This drawing should only be scaled using digital methods.

REV	DESCRIPTION	DRAWN	APPR	DATE

PROJECT TITLE
MILTON PLACE, MILTON, GRAVESEND, DA12.

DRAWING DETAIL
UTILITIES AND CCTV DRAINAGE SURVEY
SHEET 2 OF 2

CLIENT: THE HILL GROUP
SCALE: 1:200

SURVEYOR	SURVEY DATE	CHECKED BY	APPROVED BY	DWG STATUS
TJRR/SD	30/09/2025	DA	DA	FINAL

DRAWING NUMBER	REVISION	ISSUE DATE
78621BWUG-01		06/10/2025

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APPENDIX C – GW GROUND INVESTIGATION REPORT

geotechnical and environmental consultants

ground&water

Ground Investigation Report

Land at Milton Place, Gravesend, DA12 2BH

Hills Partnership Ltd

Report Reference: GWPR6764/GIR/December 2025 V1.01			Status: Final
Issue	Prepared By	Checked By	Verified By
V1.01	[redacted]	[redacted]	[redacted]
	[redacted] BSc Geotechnical and Geoenvironmental Engineer	[redacted] BSc (Hons) FGS Lead Ground Investigation Engineer	[redacted] MGeol (Hons) FGS CEnv CGeol Director

Site Investigations | Environmental Consultants | Geotechnical Engineers

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

2 The Long Barn,
Norton Farm, Selborne Road,
Alton, Hampshire GU34 3NB

0333 600 1221
enquiries@groundandwater.co.uk

groundandwater.co.uk

Ground Investigation Report (GWPR6764/GIR/December 2025 V1.01)	
REPORT REFERENCE	The conditions and limitations of this geotechnical report can be viewed within Appendix A, with A technical glossary has also been provided within Appendix C. The investigation was to be undertaken to provide parameters for the design of foundations by means of in-situ and laboratory geotechnical testing undertaken on soil samples recovered from trial holes. A full scale Environmental Desk Study and Contamination Assessment including a gas risk assessment were not part of the remit of this report; however Included within the fee proposal was an allowance to undertake chemical laboratory testing on soil samples recovered from the site to enable recommendations for the safe redevelopment of the site and the protection of site workers, end-users and the public from any potential contamination identified. The techniques adopted for the investigation were chosen considering the requirements of the client, anticipated ground conditions, and bearing in mind the nature of the site, limitations to site access and other logistical limitations.
SITE DETAILS	The site comprised a ~12200m^2 irregular shaped plot of land, situated along the western side of Milton Place and to the north of Ordnance Road. The site was located in Gravesend, a mainly residential town West of London, situated along the River Thames. A site location plan has been provided within Figure 1. The site can be accessed off Ordnance Road, the strip of hardstanding utilised for car parking within the southern boundary. Within the site boundaries comprised an in-use tarmac carpark, in the northwest, a closed off tarmac carpark in the southwest, a large open grassed area in the middle and skatepark with mounted earth in the east. The site is bordered by Milton Place to the west, Ordnance Road to the south and Gordan Gardens park to the north. A view of the site development area has been provided within Figure 3, with an aerial view of the site provided in Figure 1.
PROPOSED DEVELOPMENT	At the time of reporting, December 2025, the proposed development was understood to comprise the construction of 61No. units within a 4-storey apartment block and 15No. 2 and 3 storey residential houses with private gardens, associated car parking and areas of soft landscaping. A proposed development plan is displayed within Figure 2.
HISTORICAL MAPPING	Earliest mapping shows in 1866, shows the site had already undergone development with the construction of the Trinity Church present in the southwest corner of the site. The remainder of the site was undeveloped, however the surrounding areas to the west and south had undergone large residential developments. By 1897, a school had been constricted adjacent to the church in the southwest of the site. The rest of the site was marked as a cricket and football ground, with a small pavilion constructed along the south-eastern boundary. In 1932, a large school building was constructed south of the southern boundary. The empty field to the north of the site, known as the Gordon Recreational Grounds, underwent earthworks to create a

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	linear pond, and the construction of various buildings within the property. A sawmill is present to the east of the site. By 1953, the majority of the site has undergone development, with the construction of the Municipal Bathing Pool, paddling pool, slipper baths, and the pool administration building. The Trinity Church and adjacent school was demolished by the 1969 mapping, leaving the southeastern corner of the site empty/infilled. A telephone exchange building was also constructed to the south of the southern boundary. The sawmill to the east of the site has been replaced by a chemical works. No significant changes were noted until 1993, when mapping shows all development across the site has been demolished and removed. From site investigations, we know the swimming pool complex has been infilled with demolition material. Further ponds have been excavated to the north of the site within Gordons Gardens and the chemical works plant to the east of the site was replaced by a depot. Within the western portion of the site, a carpark has been constructed. No further changes to the site were noted in the latest historical mapping in 2003. Historical maps, obtained from GroundSure, can be viewed within Appendix D.
ANTICIPATED GEOLOGY AND HYDROGEOLOGY	The British Geological Survey (BGS) maps for the area suggest that the site was located on the Superficial Head Deposits, classified as a Secondary A Superficial Aquifer, overlying Seaford Chalk Formation, classified as Principal Bedrock Aquifer. Based on this, it was anticipated that groundwater is to be encountered at depth with the Seaford Chalk Formation, or potentially perched within a shallow cohesive band within the superficial Head Deposits. The main groundwater table though is expected within the principal aquifer at depth. A BGS borehole record in similar geology ~40m south of the site (ref.: TQ67SE47) noted sandy gravelly clay to 3.60m bgl, overlying chalk for the remaining depth of the trial hole (24.60m bgl). No groundwater was encountered.
PREVIOUS SITE INVESTIGATIONS	A previous Phase 2 Geo-Environmental Assessment by Create Consulting Engineers Limited (referenced: Ref: AW/CS/P23-2862/02 Rev A), was undertaken at the site in January 2024 regarding the proposed development. The report consisted of an intrusive ground investigation as well as geotechnical and chemical laboratory testing. The purpose of this site investigation and report is to address the recommendations outlined in AW/CS/P23-2862/02 Rev A, and provide additional geotechnical information pertinent to the site. A summery of the previous recommendations relevant to this geotechnical report can be seen below: • On removal of any below ground structures, if significant earthworks are required, targeted laboratory geotechnical testing would be recommended and a detailed earthworks specification prepared.
SITE WORKS	Site works were undertaken on 01st October, 28th October and 27th-28th of November 2025 and comprised:

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- the drilling of 2No. Rotary Boreholes (TP4(BH1) – TP5(BH2)) to 4.00m bgl. Standard Penetration Testing was undertaken at ~1.00m intervals. Initial trial pits into the backfilled swimming pool where hampered by the thickness and strength of the concrete. Therefore it was necessary to rotary core these positions.

- 8No Machine excavated Trail Pits to depths ranging from 1.50m to 2.00m bgl (TP1-TP3, TP6-TP10) with BRE365 soakage testing carried out in TP1-TP3.

- A combination of geotechnical and chemical laboratory testing was undertaken within the trail pits and rotary boreholes.

GROUND CONDITIONS ENCOUNTERED

A summary of the ground conditions encountered has been summarised in the following table. The trial hole logs can be seen within Appendix E.

Summary of Strata Encountered			
Strata	**Top Depth (m bgl)**	**Base Depth (m bgl)**	**Thickness (m)**
TOPSOIL: Light brown gravely SAND. Sand is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint. (No Topsoil in TP6 or TP7).	GL	0.1 – 0.40	0.10 – 0.40
MADE GROUND: Brown and grey, gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to cobble, consisting of angular to subangular brick, rock, flint, concrete hardcore. (No Made Ground in TP1-TP3).	0.05 – 0.30	0.70 – 1.40	0.40 – 1.35
MADE GROUND (SWIMMING POOL INFILL TP4 – TP5): Brown, sandy clayey GRAVEL. Sand is fine to coarse, gravel is fine to boulder, consisting of angular to subangular concrete, brick, flint.	0.10	2.50	2.40
HEAD DEPSOITS: Dark brown, gravely chalky SAND. Sand is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint. (TP3).	0.20	0.60	0.40
HEAD DEPSOITS: Orangish brown, sandy CLAY. Sand is fine to coarse. (TP8, TP9 and TP10).	0.15 – 0.70	0.70 – >1.50	0.55 – >0.80
SEAFORD CHALK FORMATION: Structureless CHALK composed of slightly silty subangular to sub rounded GRAVEL. Clasts are upper end of weak, low to medium density, cream with occasional brown staining (Grade Dc). (No Chalk was encountered in TP9 and TP10).	0.20 – 0.30	0.85 – 1.20	0.65 – 0.90
SEAFORD CHALK FORMATION: Weak, medium density, white with occasional black specks, structured CHALK. Fractures closely spaced (30mm, 55mm, 70mm) and open 3mm. Fractures horizonal and sub horizontal and 80° to vertical. No Discernible fracture sets (MEDIUM DENSITY, GRADE C4) (TP4 and TP5).	2.80	<5.00	<2.20

GROUNDWATER

Groundwater was no encountered within any trail pit or rotary borehole.

Changes in groundwater level occur for a number of reasons including seasonal effects and variations in drainage. The investigation was undertaken in October – November 2025 when groundwater levels

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are likely to be approaching their annual maximum (highest elevation). Exact groundwater levels may only be determined through long term measurements from monitoring wells installed on-site.

ROOTS

Fresh roots were proven to 0.30 bgl within all investigation holes except TP6. The depths of root penetration can be seen tabulated below.

Summary of Root Penetration	
Trial Hole	**Fresh Root Depth (m bgl)**
TP1	0.30
TP2	0.30
TP3	0.30
TP4 (BH1)	0.30
TP5 (BH2)	0.30
TP6	NA
TP7	0.30
TP8	0.30
TP9	0.30
TP10	0.30

The site and its immediate environs were noted to contain a number of existing trees and vegetation. Therefore, it should be noted that roots may be found to greater depths at other locations on the site, particularly close to trees and/or trees that have been removed both within the site and its close environs.

IN-SITU STRENGTH TESTING

A summary of the in-situ strength testing conducted has been summarised in the following table.

Interpretation of In-situ Geotechnical Testing Results					
Strata	**SPT "N" Blow Counts or Equivalent SPT "N Value from DP**	**Equivalent Undrained Shear Strength (Cu) (kPa)**	**Soil Type**		**Trial Hole/s**
			Granular (Density)	**Cohesive (Cu)**	
Seaford Chalk Formation	27-30	-	Dense	-	TP4/5.00 – 5.45m bgl TP5/4.50 – 4.95m bgl

SATURATED MOISTURE CONTENT

Saturation Moisture Content of Chalk Test

A précis of Saturation Moisture Content of Chalk testing undertaken can be seen in the following table. The test results are presented within Appendix F.

Saturation Moisture Content of Chalk Tests Results Summary					
Stratum	**Moisture Content (%)**	**Bulk Density (Mg/m3)**	**Dry Density (Mg/m3)**	**Saturated Moisture Content %**	**CIRCA Density Classification**
Seaford Chalk Formation	28 - 32	1.89 – 1.94	1.46 – 1.52	29 - 32	Low Density
• ***All results are non-standard due to the excavation process affecting the chalk**					

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CONTAMINATION	An un-targeted set of samples (4No. Made Ground, 3No. Head Deposits and 1No Chalk Deposit) were submitted to the accredited chemical laboratory for analysis. The results can be viewed in Appendix G. Based on the proposed development, the results of the chemical laboratory testing were compared to the Generic Assessment Criteria (GAC) for a 'Residential with homegrown produce' land-use scenario, as this was considered the most appropriate land-use scenario. Chemical laboratory testing indicated no elevated levels of determinands exceeding the Generic Assessment Criteria (GAC) for a 'Residential with Homegrown Produce' land-use scenario. Chrysotile asbestos was detected in TP9 at 0.50m bgl. Following the detection of asbestos in the soil an asbestos quantification test was carried out on VS2, which found the percentage of detected Chrysotile asbestos to be less than 0.0001%. An Asbestos Risk Assessment (CIRIA733) can be seen in Appendix D, shows the risk to residents, groundworkers and general end-users to be insignificant.
CHALK DISSOLUTION AND MINING RISK ASSESSMENT	The presence of dissolution features on-site can prove problematic, as they often provide inconsistency within the underlying geology. Often formed during glacial and periglacial conditions, the depth and width of these features can vary substantially, often providing inconsistency in geological strength data. If a dissolution feature is suspected, a geotechnical engineer and structural engineer should be contacted for suitable engineering designs, based on further works identifying and classifying the area the feature occupies. A review of Desk based information revealed the following, which may be pertinent to this risk assessment. • The site was classified as a low risk of ground dissolution of soluble rocks. Approximately 47m south of the site was an area of high risk of ground dissolution of soluble rocks. • An on-site Class A Historical Non-Coal Mining area was identified on-site; however, this is generally a precautionary statement attributed to all areas associated with chalk within the ground profile. Therefore, this does not identify any underground chalk features at the site location. • 1No natural cavity was noted 399m from the site. • No records of Britpits were noted within 500m radius of the site. • 4 records of surface ground workings were noted within the site from 1955-1981 all consisting of a Pond. 56 records of surface ground were noted within 250m from the site. These were mainly unspecified ground workings, or cuttings to the north, south and northeast. • No records of underground workings, mining cavities or JPB mining areas were noted within a 500m radius of the site. • The historical mapping review undertaken in section 3.1 of this report confirmed the findings of the Groundsure datasheets discussed above.

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	• LIDAR data showed no evidence of dissolution features was noted within the site. • The Edmonds Procedure (Edmonds, C.N., 2001. Predicting natural cavities in chalk. Geological Society, London, Engineering Geology Special Publications, 18(1), pp.29-38.); highlighted a high subsidence hazard classification. The site investigation encountered a 200 - 400mm capping of Topsoil overlying either Made ground or cohesive Head Deposits to ~0.20 – 1.50m bgl, underlain by the Seaford Chalk Formation for the remaining depth of all boreholes, except TP9 and TP10 (maximum depth of 5.45m bgl). In-situ testing classified the Seaford Chalk Formation as being dense, with SPT values ranging from 27 – 30. No soft spots were encountered. The depth of chalk was not established within TP9 or TP10, with Head Deposits reaching >1.50m bgl. The depth of chalk should be established within this area. As a result of the desk-based review of the site, based on collective information to date and the competent ground encountered to a moderate depth, in combination with the size of the site, it is likely that dissolution features that would technically affect the buildings, would be present.
FOUNDATION RECOMMENDATIONS	A summary of the findings from the site investigation, relevant to foundation recommendations, can be seen below: • Foundations should be taken through any Made Ground/Topsoil and constructed either into, or onto a suitable underlying natural stratum of adequate bearing characteristics. • Foundations should be designed in accordance with soils of medium volume change potential within the Head Deposits, and no volume change potential within the Seaford Chalk Formation. • Given the presence of cohesive soils at shallow depth, special foundation precautions may be required to prevent possible future shrinkage/swelling of the soils affecting the integrity of the faces of foundations (underfloor void diameter/compressible material/void formers etc). A compressible layer may be required be provided to accommodate potential seasonal movement, based on NHBC guidance. • Due to the shallow soils having volume change potential and Made Ground thickness is more than 600mm, a suspended slab is required. • The loads of proposed foundations should not exceed the allowable bearing capacity of the soils they are founding upon. • Foundations must not be placed within fresh root penetrated and/or desiccated soils with volume change potential. It is recommended that foundations are taken at least 300mm into non-fresh root penetrated strata if the soils have volume change potential, or into soils of no volume change potential. • The influence of trees on or surrounding the site will need to be taken into account in final design (NHBC Standards Chapter 4. 2). • Any water ingress must be prevented from entering foundation trenches and excavations must be kept dry and either concreted or blinded as soon after excavation as possible. If water were allowed to accumulate within the excavation for even a short period of time, an increase in heave occur. The shear strength will also be reduced, resulting in lower bearing capacities,

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resulting in increased settlements. Instability issues may arise within the foundation trenches, in case of perched water being present.

SHALLOW FOUNDATIONS

Based on the above, foundations should bypass any Made Ground/Topsoil and soft spots/loose granular soils, before extending 300mm below the proved depth of root penetration. Foundations would therefore be constructed on competent, moisture stable soils of the London Clay Formation. A tabulated summary showing the minimum foundation depth based on each trial hole can be viewed in the following table.

Summary of Minimum Foundation Depths

Trial Hole	Minimum Foundation Depth (m bgl)	Founding Geological Formation	Reason
TP1	0.60	Seaford Chalk Formation	Foundations should bypass Topsoil and extend 300mm below the depth of root penetration (0.3m bgl), before founding on competent soils at a moisture stable depth.
TP2	0.60	Seaford Chalk Formation	Foundations should bypass Topsoil and extend 300mm below the depth of root penetration (0.3m bgl), before founding on competent soils at a moisture stable depth.
TP3	0.60	Seaford Chalk Formation	Foundations should bypass Topsoil and extend 300mm below the depth of root penetration (0.3m bgl), before founding on competent soils at a moisture stable depth.
TP4 (BH1)	3.00	Seaford Chalk Formation	Foundations should bypass Made Ground, before founding on competent soils at a moisture stable depth.
TP5 (BH2)	3.00	Seaford Chalk Formation	Foundations should bypass Made Ground, before founding on competent soils at a moisture stable depth.
TP6	1.00	Seaford Chalk Formation	Foundations should bypass Made Ground, before founding on competent soils at a moisture stable depth.
TP7	1.50	Seaford Chalk Formation	Foundations should bypass Made Ground, before founding on competent soils at a moisture stable depth.
TP8	0.90	Seaford Chalk Formation	Foundations should bypass Topsoil before founding on competent soils at a moisture stable depth.
TP9	0.90	Head Deposits	Foundations should bypass Topsoil before founding on competent soils at a moisture stable depth.
TP10	0.90	Head Deposits	Foundations should bypass Topsoil before founding on competent soils at a moisture stable depth.

Foundations founded into Structureless Dc Chalk should allow a bearing capacity of 225kPa.

Foundations founded into the structured Dc (Grade C4) chalk within TP4 (BH1) and TP5 (BH2) should allow a bearing capacity of 240kPa.

A bearing capacity of 70kpa has been adopted for the Head Deposits overlying the site. Due to the limited extend of these Head Deposits, where possible foundations should be taken into the underlying Seaford Chalk formation.

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	Confirmatory shear vanes should be undertaken within the Head Deposits before founding, specifically for areas where chalk as not been reached (TP9 and TP10).
PILED FOUNDATIONS	Based on the results of the intrusive investigation, a piled foundation scheme was unlikely to be required. However, should deep Made Ground be encountered onsite, piles/minipiles, embedded into the underlying Seaford Chalk formation should be considered. The construction of a piled/minipile foundation is a specialised job and the advice of a reputable contractor familiar with the type of ground encountered on this site, should be sought prior to finalising the foundation design. The actual pile working load will depend on the particular type of pile and method of installation adopted. In general, for the cumulative pile capacity calculations, shaft friction over desiccated levels should be ignored and piles should not be terminated within desiccated soils where moisture recovery following could occur. The piles will need to be designed in accordance with the volume change potential of the soils encountered, depth of desiccation and root penetration. Temporary casing may be required where the upper portion of the pile passes through the Made Ground, particularly where perched water is encountered, to prevent necking of the concrete. **Piling Groundwater Risk Assessment** Given the geology at the site, piling may extend into the aquifer beneath the site, the potential for pathways to be present need to be considered. Review of the Wilson and Mortimer paper *Piled foundations and pathways for ground gas migration in the UK (ICE publishing – Environmental Geotechnics*), indicates that any preferential pathways for ground gases or contaminated water created by piles needs consideration for ground conditions and the nature of the pile utilised. An important consideration is the nature of the pile, whether it is a displacement or replacement pile. For there to be a preferential pathway for the movement of groundwater, a continuous open annulus is required around the piles installed. An open annulus will not form around piles during installation except for driven H and I piles. Cast in-situ piles are driven or bored and filled with wet concrete. The pressure exerted on the wet concrete will seal up any annulus around the pile, sealing any pathway. The Environment Agency recommend that CFA piling is undertaken on any site where contamination may be expected. Based on the above, the use of CFA piles or other cast in-situ piles should be adopted, which will not result in the downward migration of contamination within the groundwater.
EXCAVATIONS AND INSTABILITY	Shallow excavations in the Made Ground are likely to be marginally stable at best. Long, deep excavations, through these strata and into the underlying strata are likely to become unstable.

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Unsupported earth faces formed during excavation may be liable to collapse without warning and suitable safety precautions should therefore be taken to ensure that such earth faces are adequately supported before excavations are entered by personnel.

SURFACE WATER DISPOSAL

Soakage testing, following the principles of BRE365 was undertaken within the superficial deposits of the cohesive Head Deposits and underlying Seaford Chalk Formation. The infiltration test results can be seen in the following table. It should be noted that it was not possible to undertake the tests to full compliance of BRE Digest 365.

Soakage Testing Results						
Trial Hole	**Test Number**	**Depth (m bgl)**	**Start Depth (m bgl)**	**Finish Depth (m bgl)**	**Time Taken (mins)**	**Infiltration Rate (m/sec)**
TP1*	1	2.0	0.75	1.11	240	5.12 x 10^-6
TP2	1	2.0	0.62	1.81	60	0.0042
	2	2.0	0.94	1.80	60	0.0050
	3	2.0	0.89	1.80	70	0.0049
TP3	1	2.0	0.70	1.86	80	0.0044
	2	2.0	0.85	1.80	85	0.0044
	3	2.0	0.88	1.85	90	0.0046
***Given the relatively slow infiltration rate encountered, only one test could be undertaken and it did not reach 75% mark.**						

The principles of sustainable urban drainage system (SUDS) should be applied to reduce the risk of flooding from surface water ponding and collection associated with the construction of the foundations.

Consultation with the Environment Agency must be sought regarding any use that may have an impact on groundwater resources, abstractions and surface water features/watercourses.

It should be noted that water discharge into the chalk may worsen/create dissolution features. Therefore, soakaways should be remote from structures and undertaken in accordance with available guidance. A number of published information sources make reference to an appropriate distance at which a soakaway should be sited in relation to any building foundations in the vicinity:

- The British Standard BS8301 :1985 “Code of practice for building drainage” (1985), suggests that: “A soakaway is not desirable nearer to a building than about 5 metres nor in such a position that the ground below foundations is likely to be adversely affected.”
- The Building Research Establishment Digest 365 “Soakaway design” (1991), suggests that “Soakaways should not normally be constructed closer than 5m to building foundations. In chalk or other soil and fill material subject to modification or instability, the advice of a specialist geotechnologist should be sought as to the advisability and siting of a soakaway”.

In addition, the distance a soakaway is located from any foundations can be informed by both the soakaway type and chalk density present at the site.

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- The Kent County Council Soakaway Design Guide (July 2000) states that "Highway soakaways shall be situated the following minimum distances from dwellings (measured from the outside edge of the soakaway): (1) 5 metres for conventional perforated soakaway; (2) 10 metres for deep bored soakaway. In addition, adjacent soakaways of a similar type shall also be spaced a minimum of 10 metres apart.
- CIRIA 574 states that soakaways should be sited at least 5-10m away from any structure, depending on the chalk density. Where the chalk present is of low or unknown density, soakaways should be sited at least 10m from any foundations, and where the chalk is of medium density or higher, any foundations should be sited at least 5m from any foundations. **As testing confirmed the chalk to be low density, offset from foundations should be 10m.**

IN-SITU CALIFORNIA BEARING RATIO TESTS BY DYNAMIC CONE PENETROMETER

In-situ California Bearing Ratio (CBR) testing by Dynamic Cone Penetrometer (DCP) was undertaken to determine the CBR values of the soils underlying the site to shallow depth in accordance with BS1377 Part 9: 2016: 4.3 and a summary of the results is tabulated below. The full test results are presented in Appendix D.

In-situ CBR Test Results Summary

Test Location/Strata	Layer 1			Layer 2		
	Base Depth (m bgl)	Thickness (mm)	In-situ CBR (%)	Base Depth (m bgl)	Thickness (mm)	In-situ CBR (%)
DCP1/MG	115	115	17	183	68	31
DCP2/TS	179	179	14	220	41	26
DCP3/TS	126	126	12	163	37	36
DCP4/MG	147	147	18	432	285	30
Test Location	**Layer 3**			**Layer 4**		
	Base Depth (m bgl)	**Thickness (mm)**	**In-situ CBR (%)**	**Base Depth (m bgl)**	**Thickness (mm)**	**In-situ CBR (%)**
DCP1/MG	520	337	40	551	31	190
DCP2/SCF	253	33	59	432	179	151
DCP3/SCF	233	70	72	263	30	366
DCP4/MG	504	72	162	-	-	-

MG: Made Ground TS: Topsoil SCF: Seaford Chalk Formation

ROADS AND HARDSTANDING

This section provides information relating to the construction of roads and hardstanding, for each strata encountered.

Topsoil

Roads and hardstanding should bypass Topsoil given the likely low strength, high compressibility and general variability.

Made Ground

Where roads and hardstanding are to be founded on Made Ground, a CBR value of 1% should be adopted, as a result of the variable nature of Made Ground in terms of consistency, strength and compressibility.

	Head Deposits (cohesive) Roads and hardstanding constructed on the cohesive Head Deposits should be designed based on a CBR value of 4.0%. This is based on reference to Table C1 of TRL1132 and average construction conditions. Based on wet conditions a CBR of 2.5% should be adopted, with dry conditions a CBR of 4.5% being applicable. These clay-based soils (poorly drained) with plasticity indexes generally less than 20% are likely to be frost susceptible, due to their granular content. **Chalk** In accordance with CIRIA 574, Part 4.7 The Action of Frost on Chalk, all chalk deposits can be seen to be frost susceptible. The magnitude of frost heave increases linearly with the saturation moisture content of the chalk aggregate. The weak chalk of south-east England is particularly prone to frost heave in the climatic conditions of the area. Therefore a minimum construction thickness of 450mm should be maintained. All formation levels for roads and hardstanding should be proof rolled to highlight any soft areas which should then be dug out and replaced with selected granular material compacted in thin layers to a suitable specification.
WASTE CLASSIFICATION	The excavation of foundations and soils is likely to produce waste which will require classification and then recycling or removal from site. Under the Landfill (England and Wales) Regulations 2002 (as amended), prior to disposal all waste must be classified as; • Inert; • Non-hazardous, or; • Hazardous. The Environment Agency's Hazardous Waste Technical Guidance (WM3) document outlines the methodology for classifying wastes. Once classified the waste can be removed to the appropriately licensed facilities, with some waste requiring pre-treatments prior to disposal. Following the investigation, 8No. samples were submitted to the analytical laboratory to undergo a suite of testing for contamination testing, as discussed in the previous sections. Sampling depths were chosen to reflect the receptor of concern, human health, and typically comprised a surface or near surface sample and periodically to 1.00m bgl. Any horizon where olfactory or visual evidence of contamination was present was also sampled. Based on a risk phase analysis of the chemical laboratory test results, in accordance with EC Hazardous Waste Directive and undertaken by Ground and Water Limited, all soil samples of Made Ground encountered on-site were NON-HAZARDOUS. The results of the assessment are given within Appendix H.

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	It is important to note that whilst we consider our in-house assessment tool to be an accurate interpretation of the requirements of WM3, therefore producing an initial classification in accordance with the guidance, this method classifies soils as either non-hazardous or hazardous and landfill operators have their own assessment tools and can often come to different conclusions. As a result, some landfill operators could refuse to take apparently suitable waste. It is recommended that the receiving landfill views the results of this assessment and the chemical laboratory results to determine their own classification. In addition to the samples described above, 1No. sample was scheduled to undergo Waste Acceptance Criteria (WAC) testing with single batch leachate from samples with a range of depths. The results indicate that the 1No. sample was classified as INERT. The results can be seen in Appendix E. The locations of these samples can be seen on Figure 2.
DUTY OF CARE	Groundworkers must maintain a good standard of personal hygiene including the wearing of overalls, boots, gloves and eye protectors and the use of dust masks during periods of dry weather. To prevent exposure to airborne dust by both the general public and construction personnel the site should be kept damp during dry weather and at other times when dust is generated as a result of construction activities. The site should be securely fenced at all times to prevent unauthorised access. Washing facilities should be provided and eating restricted to mess huts.

FIGURES **14**
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FIGURES



Site boundary

Not to Scale

Land at Milton Place Gravesend DA12 2BH	
Hills Partnership Ltd	**December 2025**
Figure 1: Site Location Plan	**GWPR6764**

ground&water

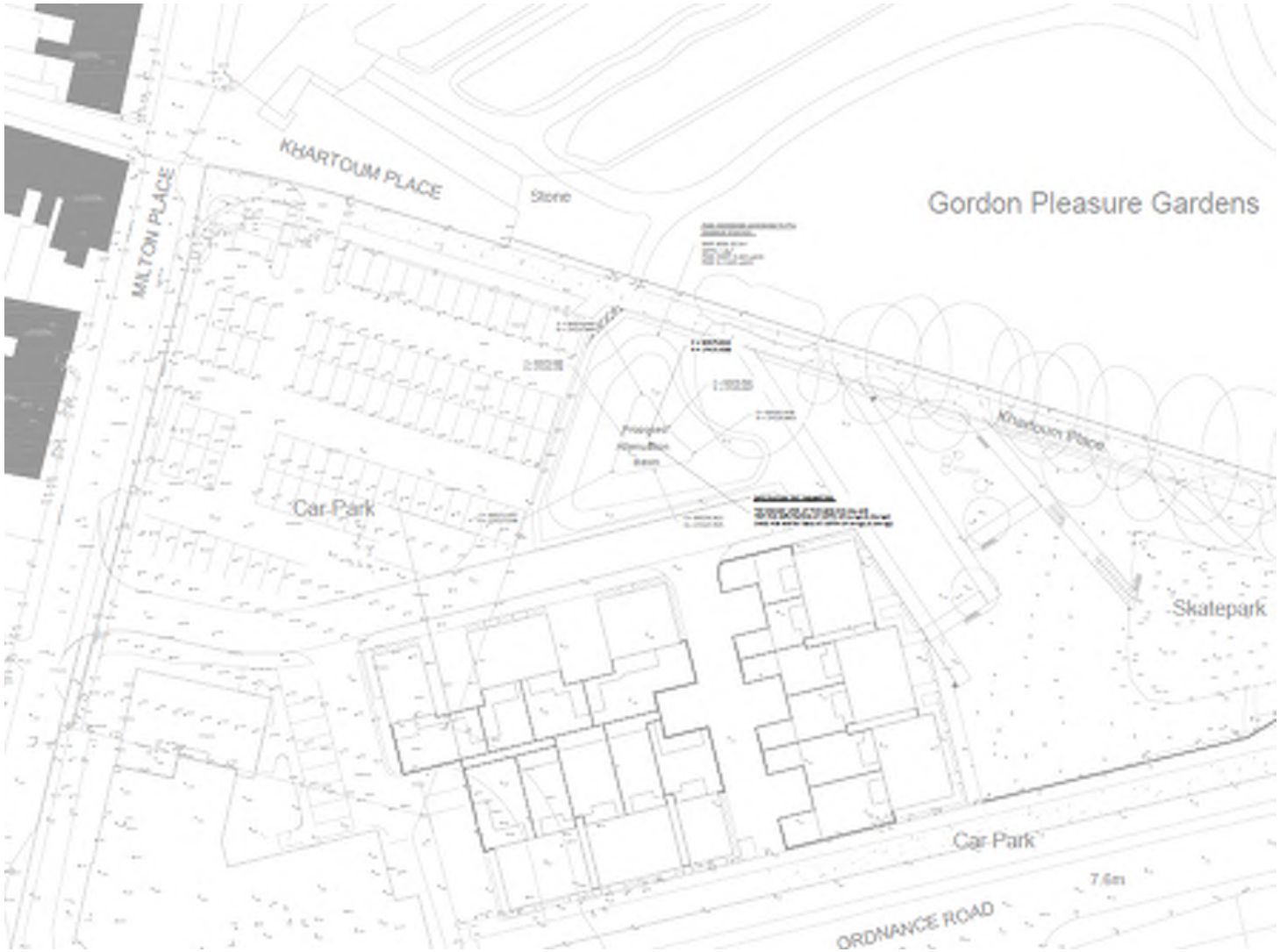


- Site boundary
- Machine Excavated Trial Pits
- Dynamic Cone Penetrometer tests to 1.0m bgl
- Hand dug Excavation trail pits

Not to Scale

Land at Milton Place Gravesend DA12 2BH	
Hills Partnership Ltd	**December 2025**
Figure 2: Trail Hole Location Plan	**GWPR6764**

ground&water



Not to Scale

Land at Milton Place Gravesend DA12 2BH	
Hills Partnership Ltd	**December 2025**
Figure 3: Proposed Development	**GWPR6764**

2 The Long Barn,
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APPENDIX A: Conditions and Limitations

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The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The report has been prepared on the basis of information, data and materials which were available at the time of writing. Accordingly any conclusions, opinions or judgements made in the report should not be regarded as definitive or relied upon to the exclusion of other information, opinions and judgements.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the client in accordance with their brief; as such these do not necessarily address all aspects of ground behaviour at the site. No liability is accepted for any reliance placed on it by others unless specifically agreed in writing.

Any decisions made by you, or by any organisation, agency or person who has read, received or been provided with information contained in the report ("you" or "the Recipient") are decisions of the Recipient and we will not make, or be deemed to make, any decisions on behalf of any Recipient. We will not be liable for the consequences of any such decisions.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

Any Recipient must take into account any other factors apart from the Report of which they and their experts and advisers are or should be aware. The information, data, conclusions, opinions and judgements set out in the report may relate to certain contexts and may not be suitable in other contexts. It is your responsibility to ensure that you do not use the information we provide in the wrong context.

This report is based on readily available geological records, the recorded physical investigation, the strata observed in the works, together with the results of completed site and laboratory tests. Whilst skill and care has been taken to interpret these conditions likely between or below investigation points, the possibility of other characteristics not revealed cannot be discounted, for which no liability can be accepted. The impact of our assessment on other aspects of the development required evaluation by other involved parties.

The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous in ground activities. The ground conditions have been sampled or monitored in recorded locations and tests for some of the more common chemicals generally expected. Other concentrations of types of chemicals may exist. It was not part of the scope of this report to comment on environment/contaminated land considerations.

The conclusions and recommendations relate to Land at Milton Place, Gravesend, DA12 2BH

Trial hole is a generic term used to describe a method of direct investigation. The term trial pit, borehole or window sampler borehole implies the specific technique used to produce a trial hole.

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The depth to roots and/or of desiccation may vary from that found during the investigation. The client is responsible for establishing the depth to roots and/or of desiccation on a plot-by-plot basis prior to the construction of foundations. Where trees are mentioned in the text this means existing trees, recently removed trees (approximately 15 years to full recovery on cohesive soils) and those planned as part of the site landscaping.

Ownership of copyright of all printed material including reports, laboratory test results, trial pit and borehole log sheets, including drillers log sheets, remain with Ground and Water Limited. Licence is for the sole use of the client and may not be assigned, transferred or given to a third party.

Only our client may rely on this report and should this report or any information contained in it be provided to any third party we accept no responsibility to the third party for the contents of this report save to the extent expressly outlined by us in writing in a reliance letter addressed from us to the third party.

Recipients are not permitted to publish this report outside of their organisation without our express written consent.

The aim of the investigation was understood to be to supply the client and their designers with information regarding the ground conditions underlying the site to assist them in preparing an appropriate scheme for development.

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APPENDIX B: Technical Glossary

TECHNICAL GLOSSARY

The list of possible definitions within the report may be seen below. Please note that some definitions may not be relevant to this report.

HYDROGEOLOGY:

A **Principal Aquifer** is a layer of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Secondary (A) Aquifers consist of deposits with permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as Minor Aquifers.

Secondary (B) Aquifers consist of deposits with predominantly lower permeability layers with may stoke and yield limited amounts of groundwater due to localised features such as fissures, think permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

Secondary Aquifers (Undifferentiated) are assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both a minor aquifer and non-aquifer in different locations due to the variable characteristics of the rock type.

Unproductive Strata are rock layers with low permeability that have negligible significance for water supply or river base flow. These were formerly classified as non-aquifers.

FLOOD ZONES:

Environment Agency Flood Zone 2, defined as; land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.

Environment Agency Flood Zone 3 shows the extent of a river flood with a 1 in 100 (1%0 or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year.

Environment Agency Flood Zone 3 area that benefits from flood defences, defined as; land and property in this flood zone would have a high probability of flooding without the local flood defences. These protect the area against a river flood with a 1% chance of happening each year, or a flood from the sea with a 0.5% chance of happening each year.

GROUNDWATER SOURCE PROTECTION ZONES (SPZS):

Inner Zone (SPZ1): This zone is 50 day travel time of pollutant to source with a 50 metres default minimum radius.

Outer Zone (SPZ2): This zone is 400 day travel time of pollutant to source. This has a 250 or 500 metres minimum radius around the source depending on the amount of water taken.

Total Catchment (SPZ3): This is the area around a supply source within which all the groundwater ends up at the abstraction point. This is the point from where the water is taken. This could extend some distance from the source point.

Zone of Special Interest (SPZ4): This zone is where local conditions require additional protection.

IN-SITU STRENGTH GEOTECHNICAL TESTING:

Windowless Sample and/or Cable Percussion and/or Rotary Boreholes provide samples of the ground for assessment but they do not give any engineering data. The standard penetration test (SPT) is an in-situ dynamic penetration test designed to provide information on the geotechnical engineering properties of soil. The test uses a thick-walled sample tube, with an outside diameter of 50mm and an inside diameter of 35mm, and a length of around 650mm. This is driven into the ground at the bottom of a borehole by blows from a slide hammer with a weight of 63.5kg falling through a distance of 760mm. The sample tube is driven 150mm into the ground and then the number of blows needed for the tube to penetrate each 75mm up to a depth of 450mm is recorded. The sum of the number of blows is termed the "standard penetration resistance" or the "N-value".

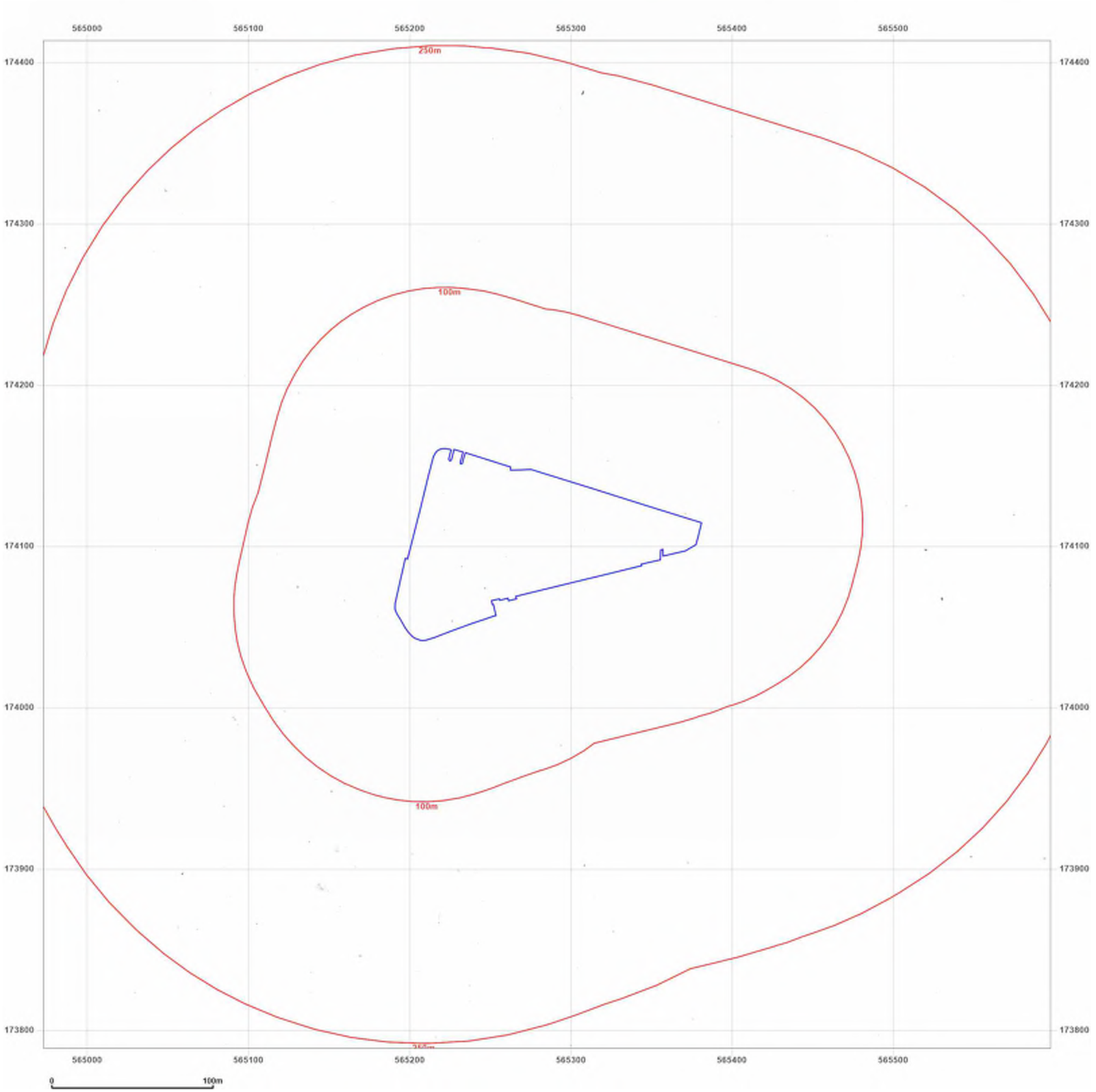
Dynamic Probing involves the driving of a metal cone into the ground via a series of steel rods. These rods are driven from the surface by a hammer system that lifts and drops a 63.5kg (SHDP) hammer onto the top of the rods through a set height, thus ensuring a consistent energy input. The number of hammer blows that are required to drive the cone down by each 100mm increment are recorded. These blow counts then provide a comparative assessment from which correlations have been published, based on dynamic energy, which permits engineering parameters to be generated. (The Dynamic Probe 'Super Heavy' (SHDP) Tests were conducted in accordance with BS 1377; 1990; Part 9, Clause 3.2).

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APPENDIX C: GroundSure Historical Mapping



Groundsure INSIGHTS

Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1864**

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1864
Edition N/A
Copyright N/A
Levelled N/A

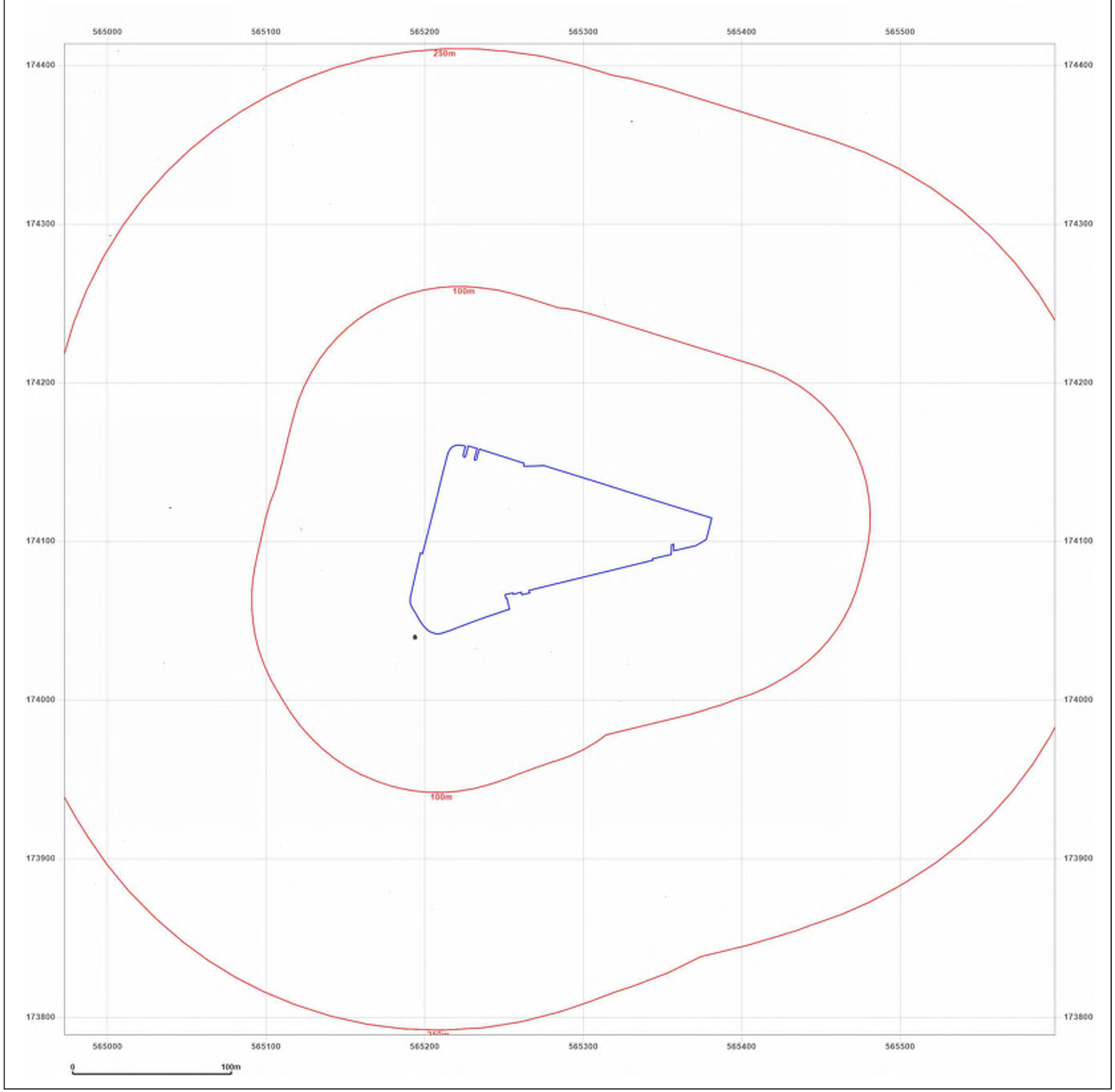
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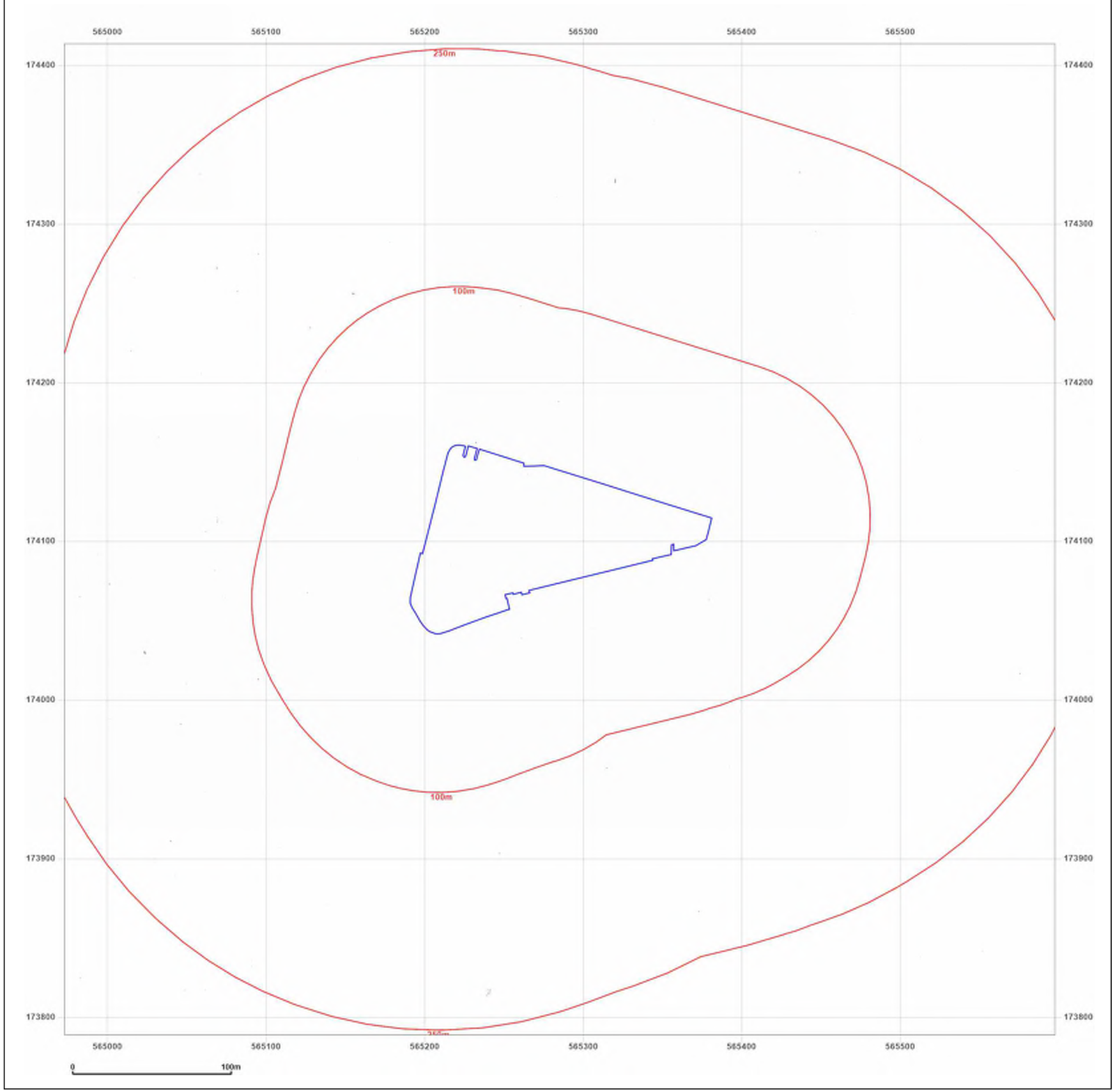
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Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1866**

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Map Name: County Series

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Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1897**

Scale: 1:2,500

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Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1932**

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Edition N/A
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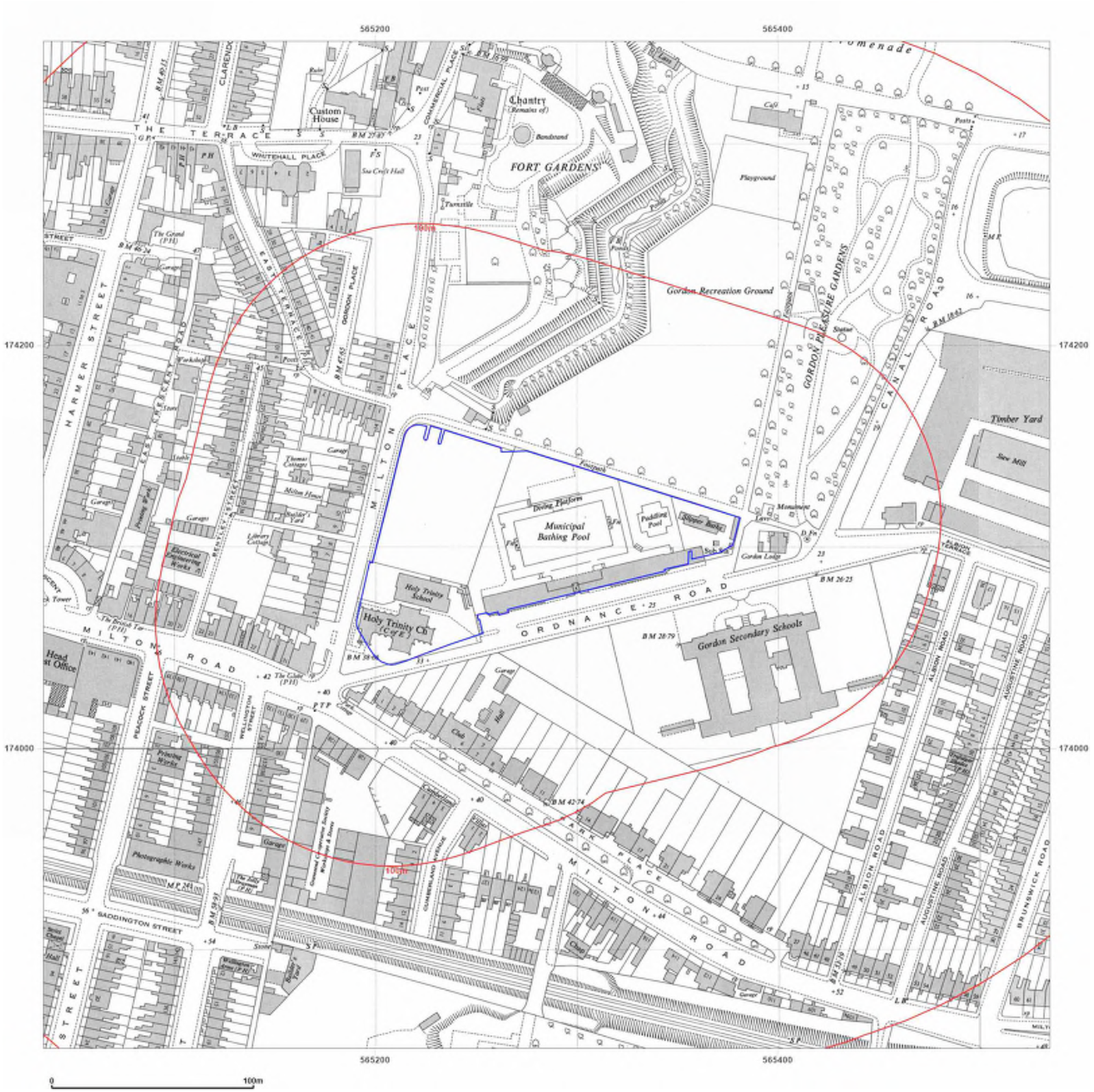
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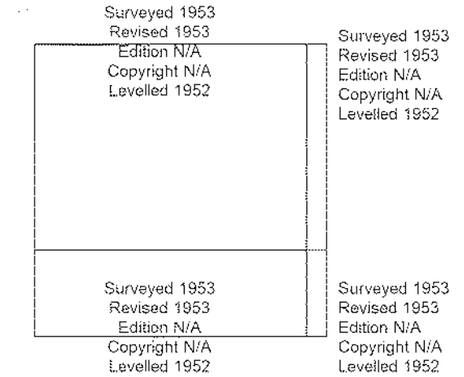
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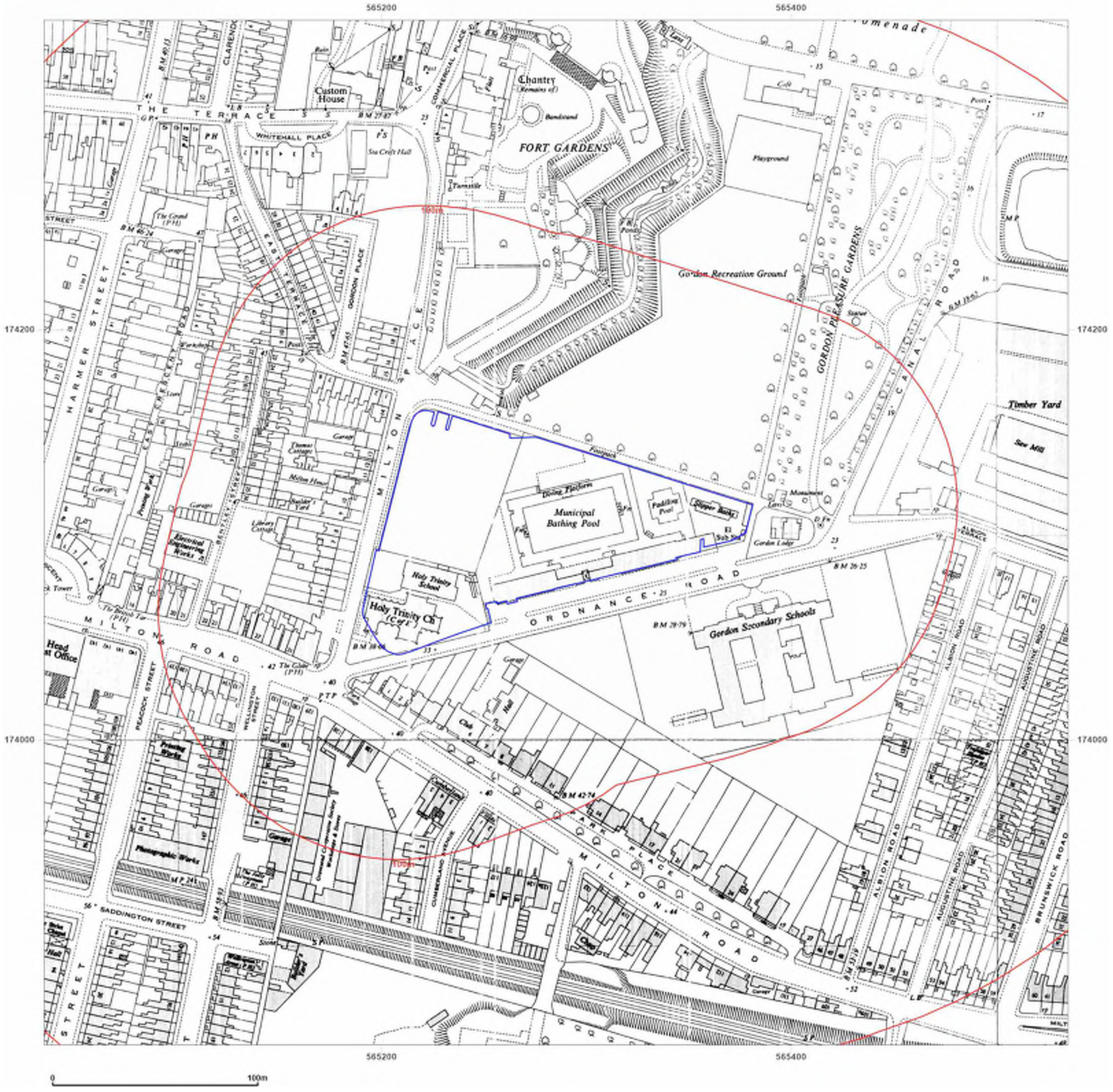
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Map date: **1954**

Scale: 1:1,250

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Map date: **1955-1958**

Scale: 1:2,500

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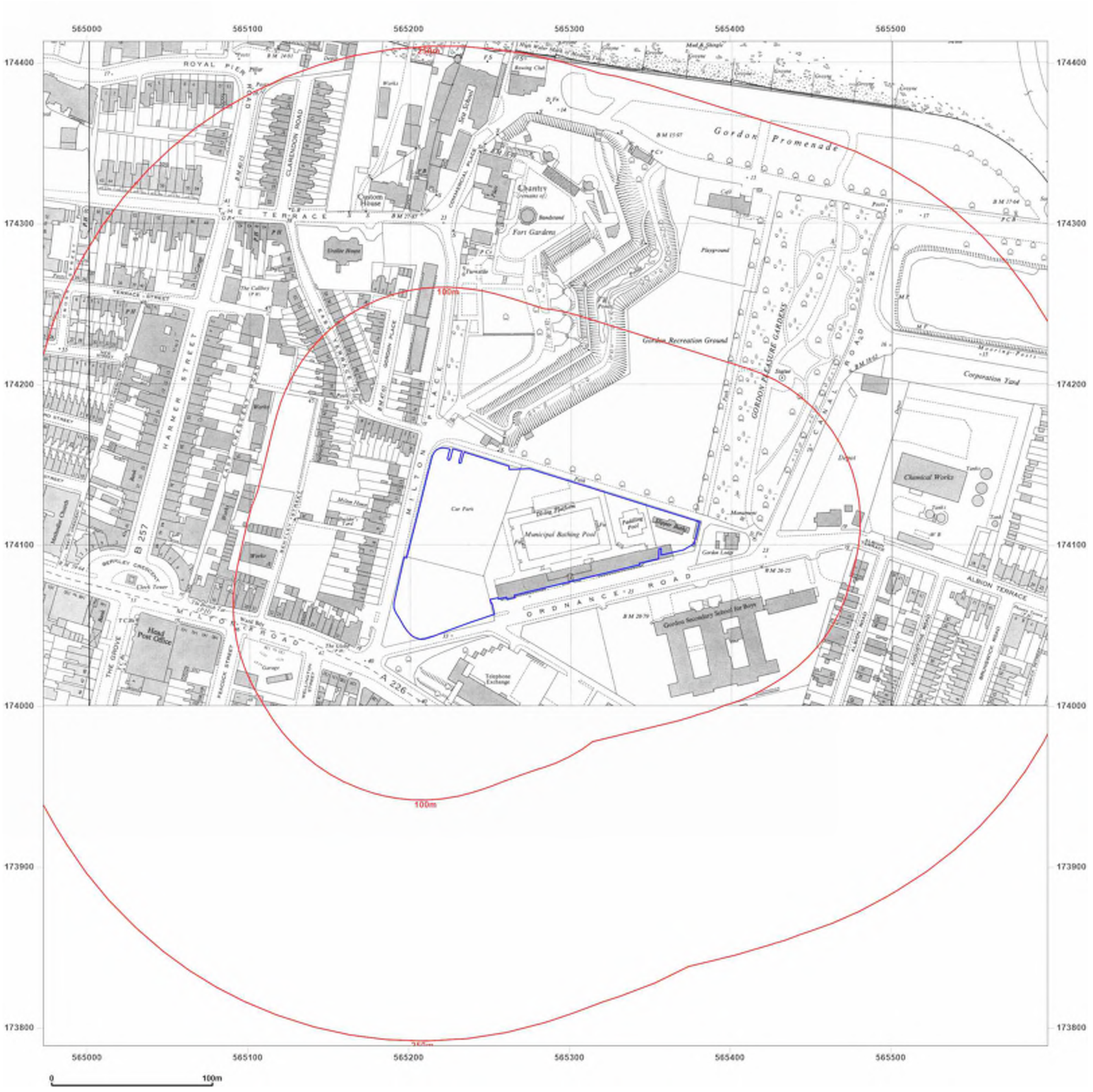
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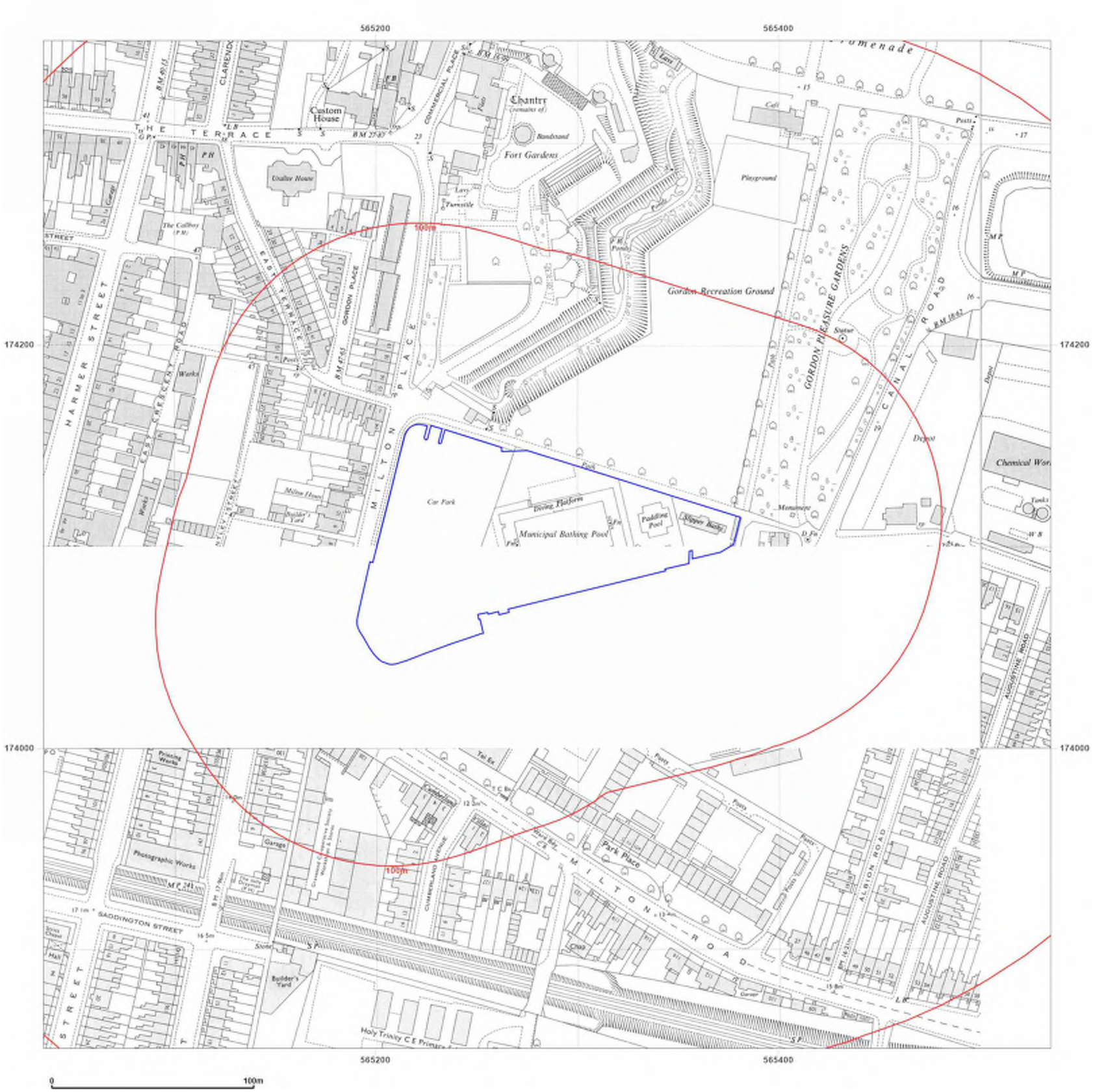
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Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1964-1970**

Scale: 1:1,250

Printed at: 1:2,000

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Levelled 1952

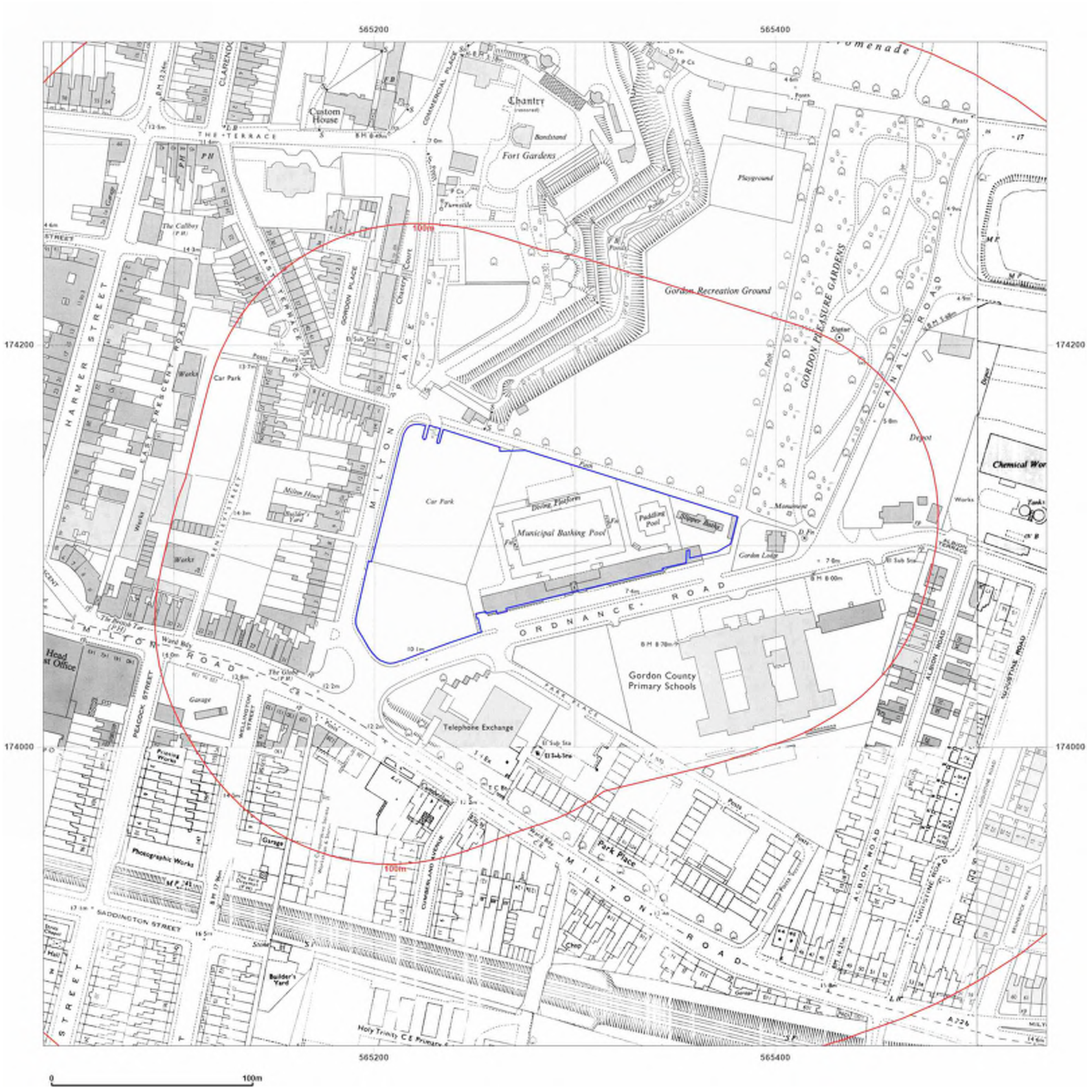
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Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1974-1978**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1953 Revised 1975 Edition N/A Copyright 1976 Levelled 1952	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A
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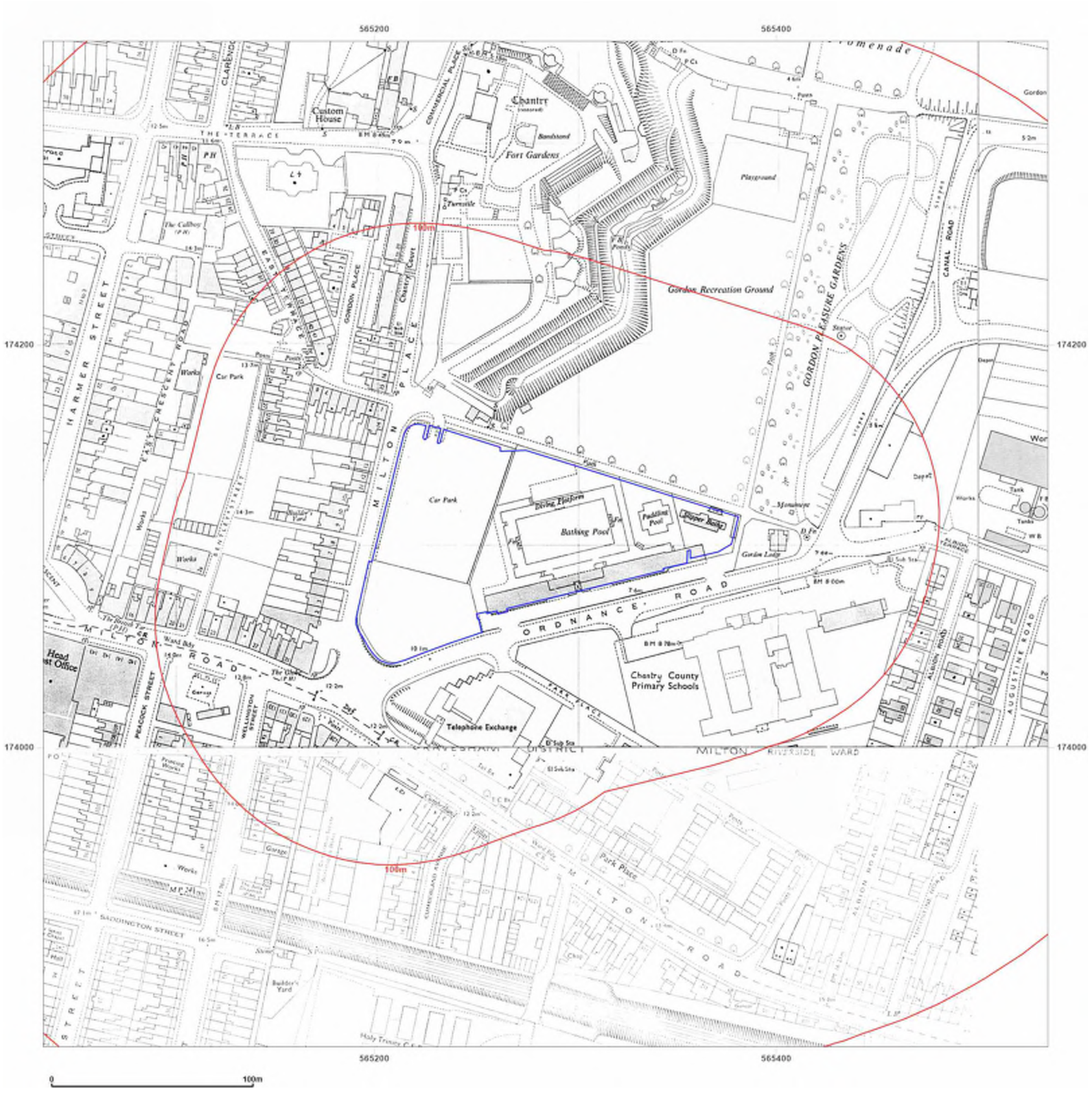
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Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1976-1981**

Scale: 1:1,250

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Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

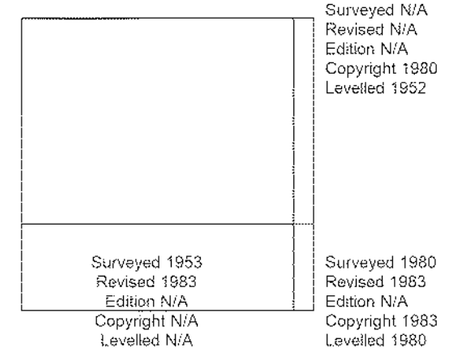
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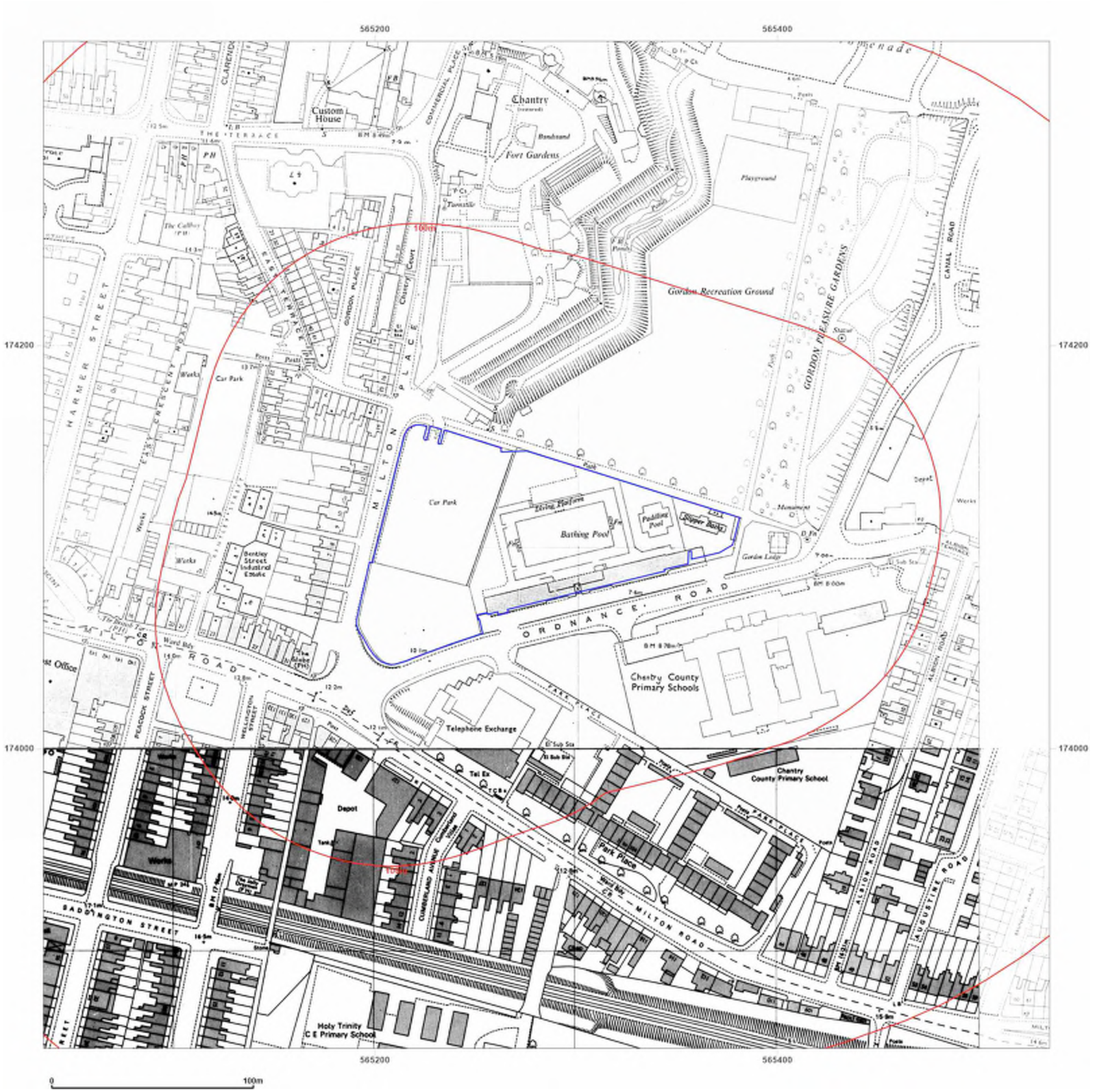
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Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1983-1986**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1983
Edition N/A
Copyright 1984
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Surveyed 1980
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Copyright 1983
Levelled 1980

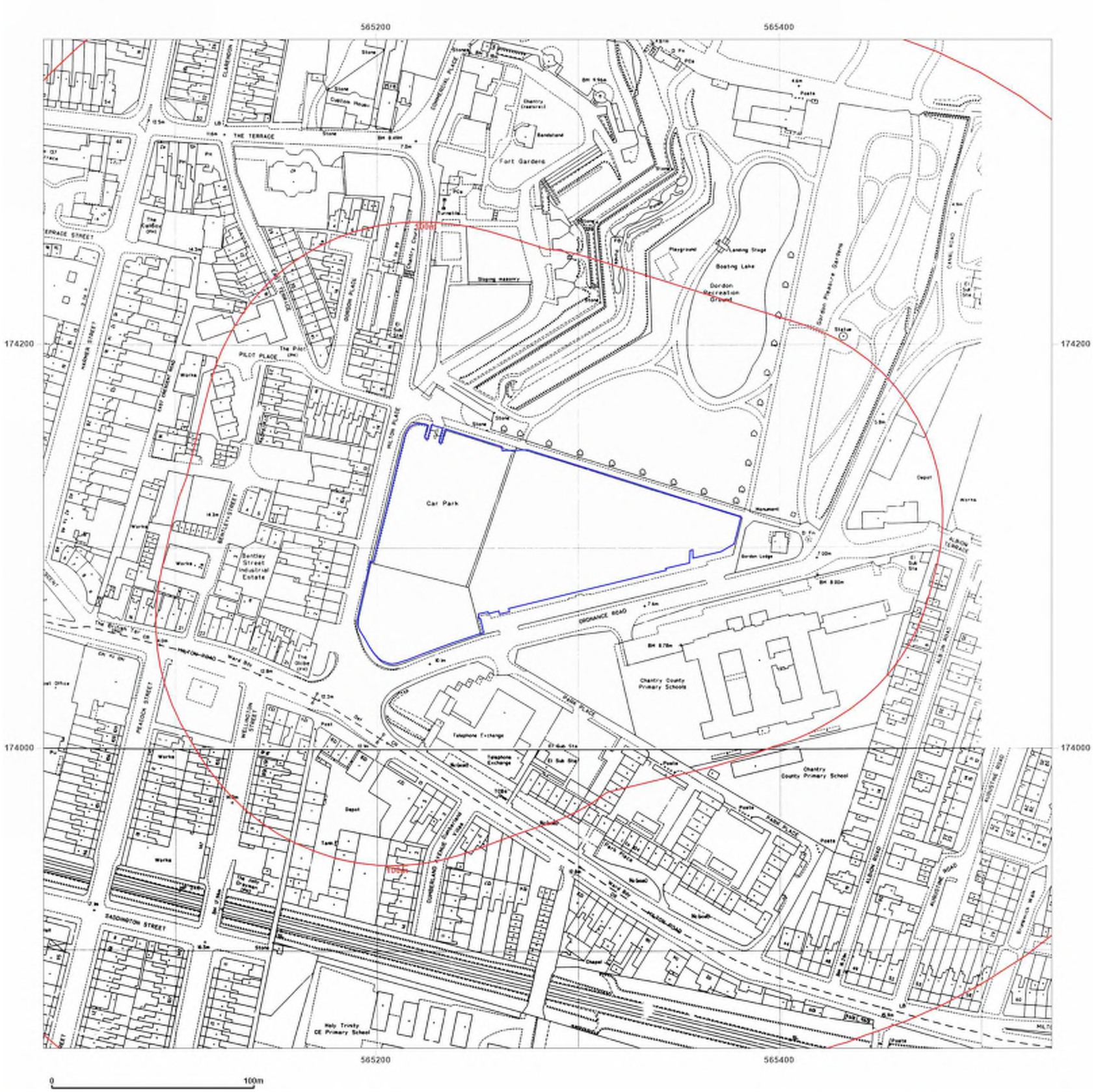
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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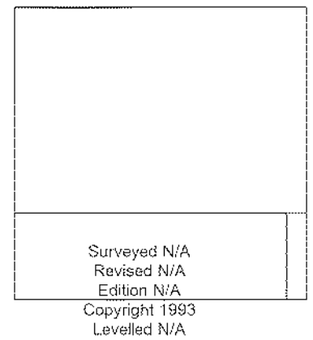
Site Details:

GWPR6764

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Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid
Map date: **1993**
Scale: 1:1,250
Printed at: 1:2,000

N
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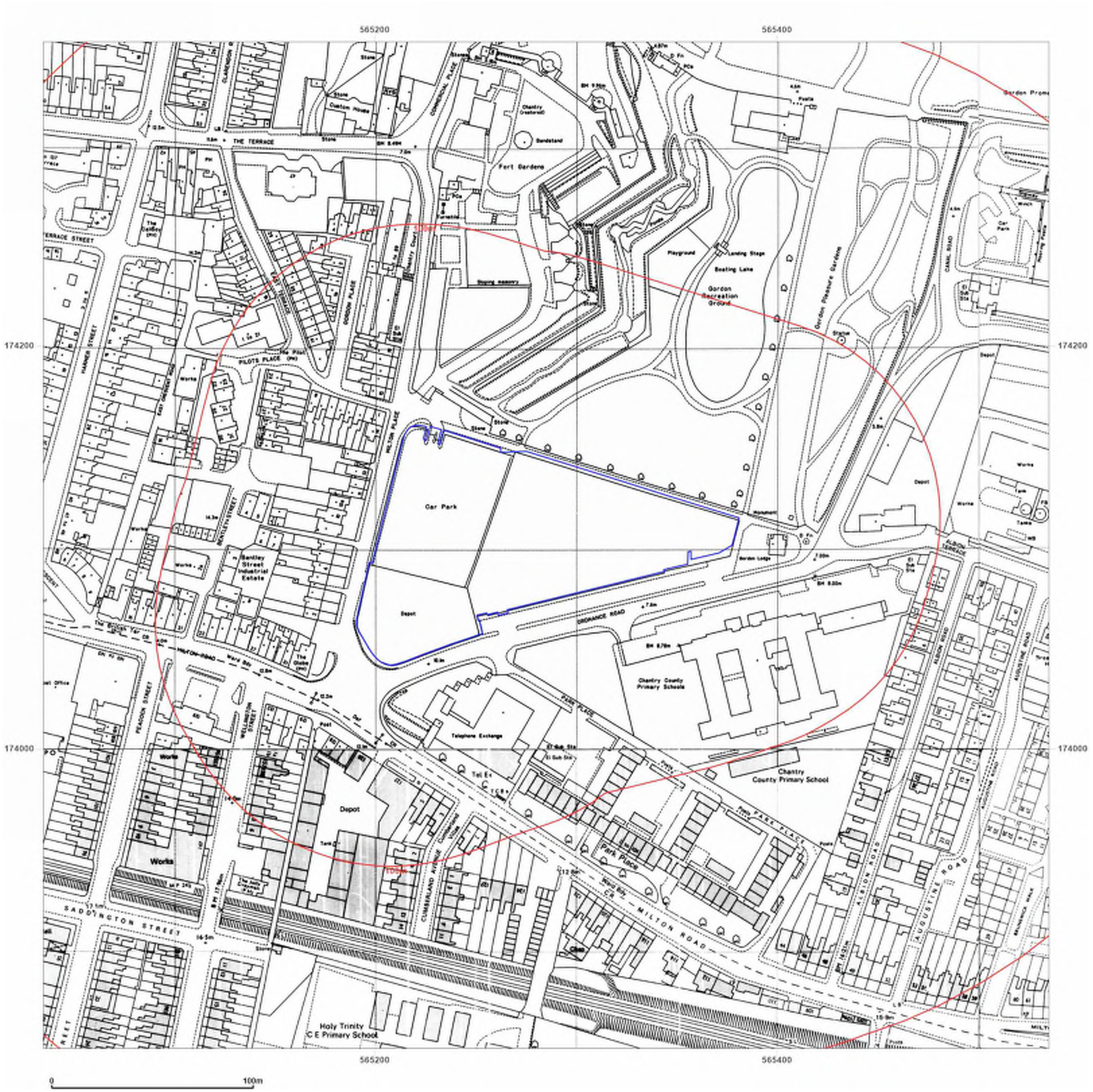
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1992-1993**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1991 Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A
Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A	Surveyed 1980 Revised 1992 Edition N/A Copyright 1992 Levelled 1980

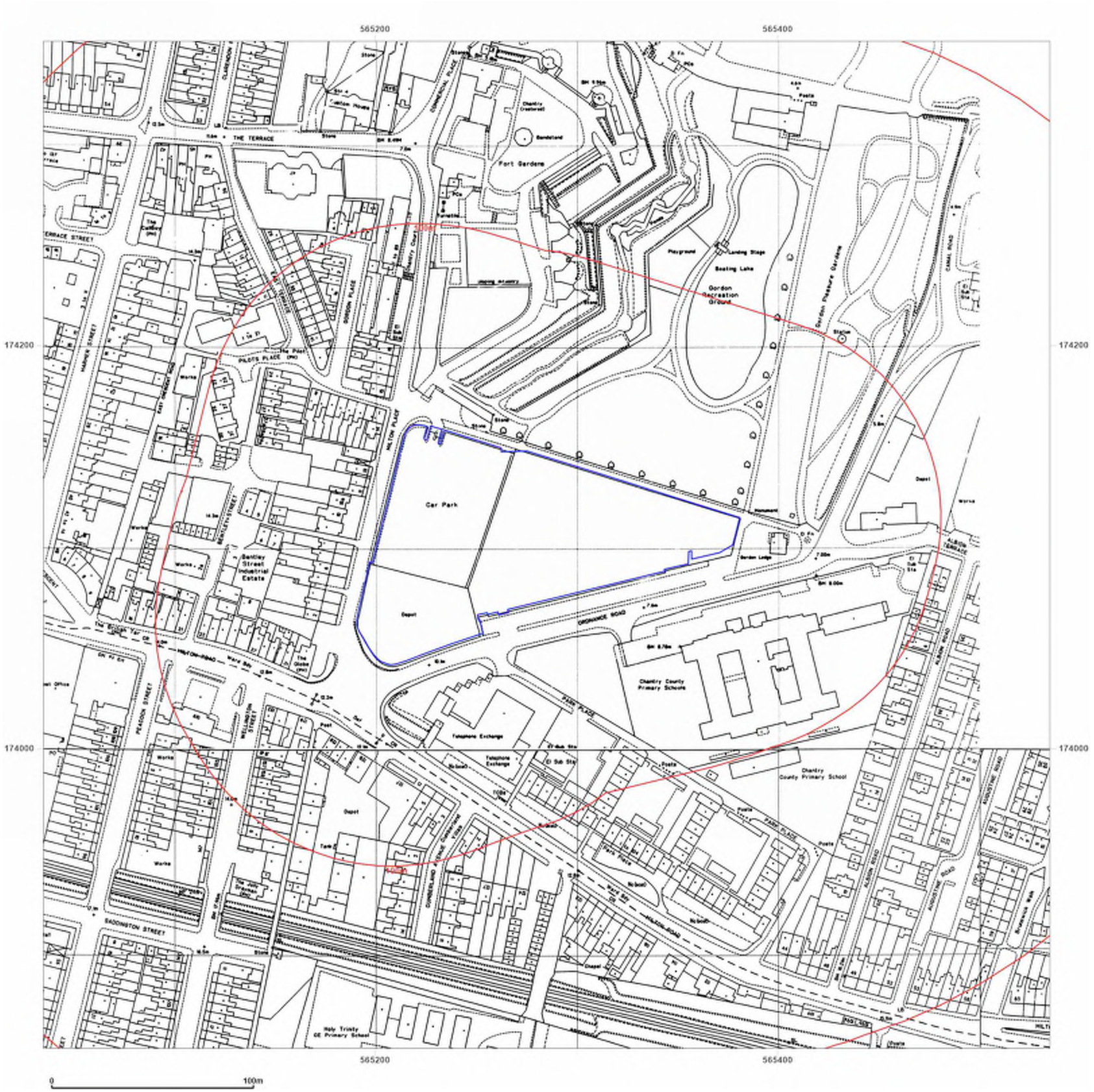
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1993**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1991
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

N
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2003

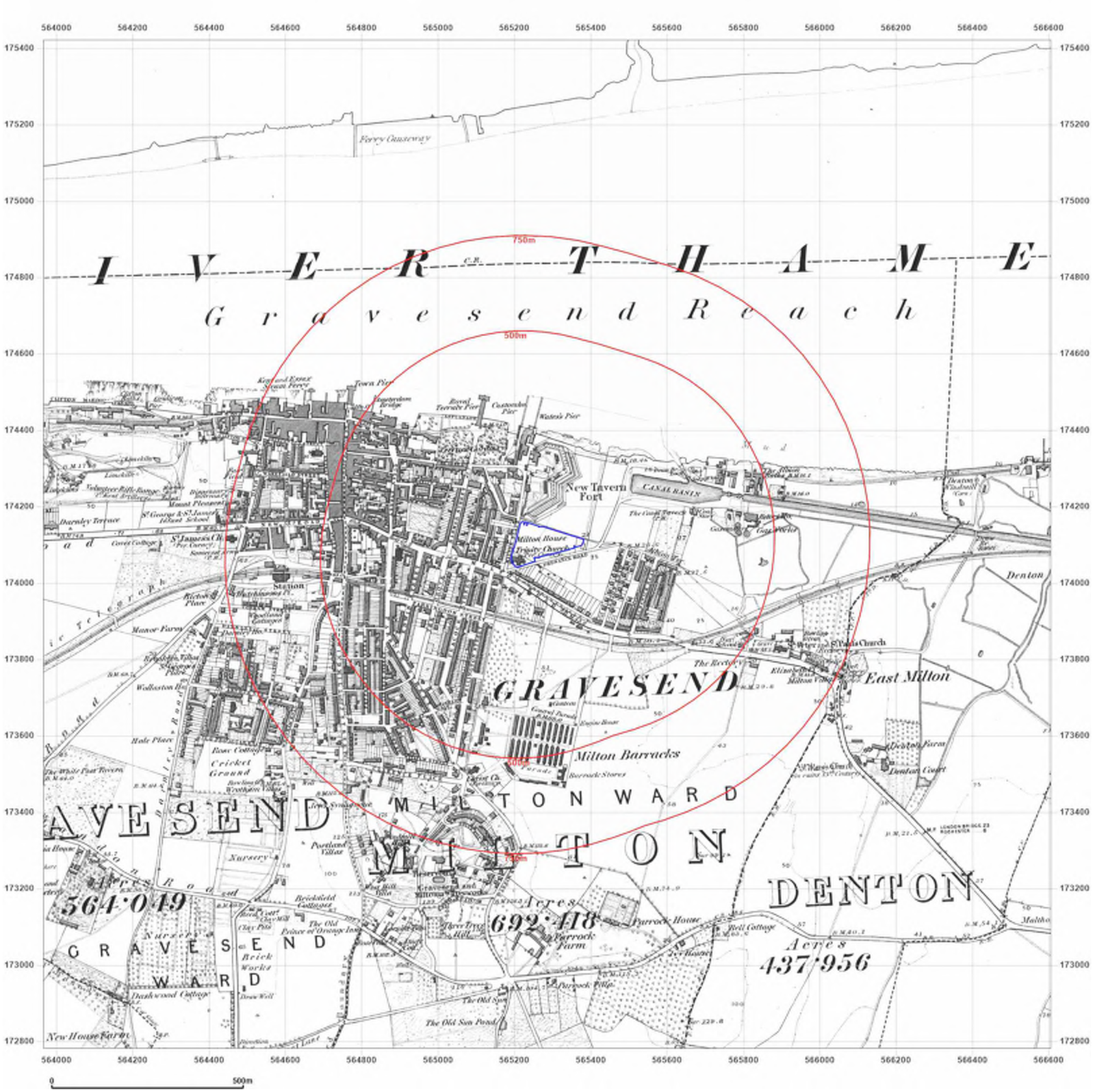
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1865**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1865
Revised 1865
Edition N/A
Copyright N/A
Levelled N/A

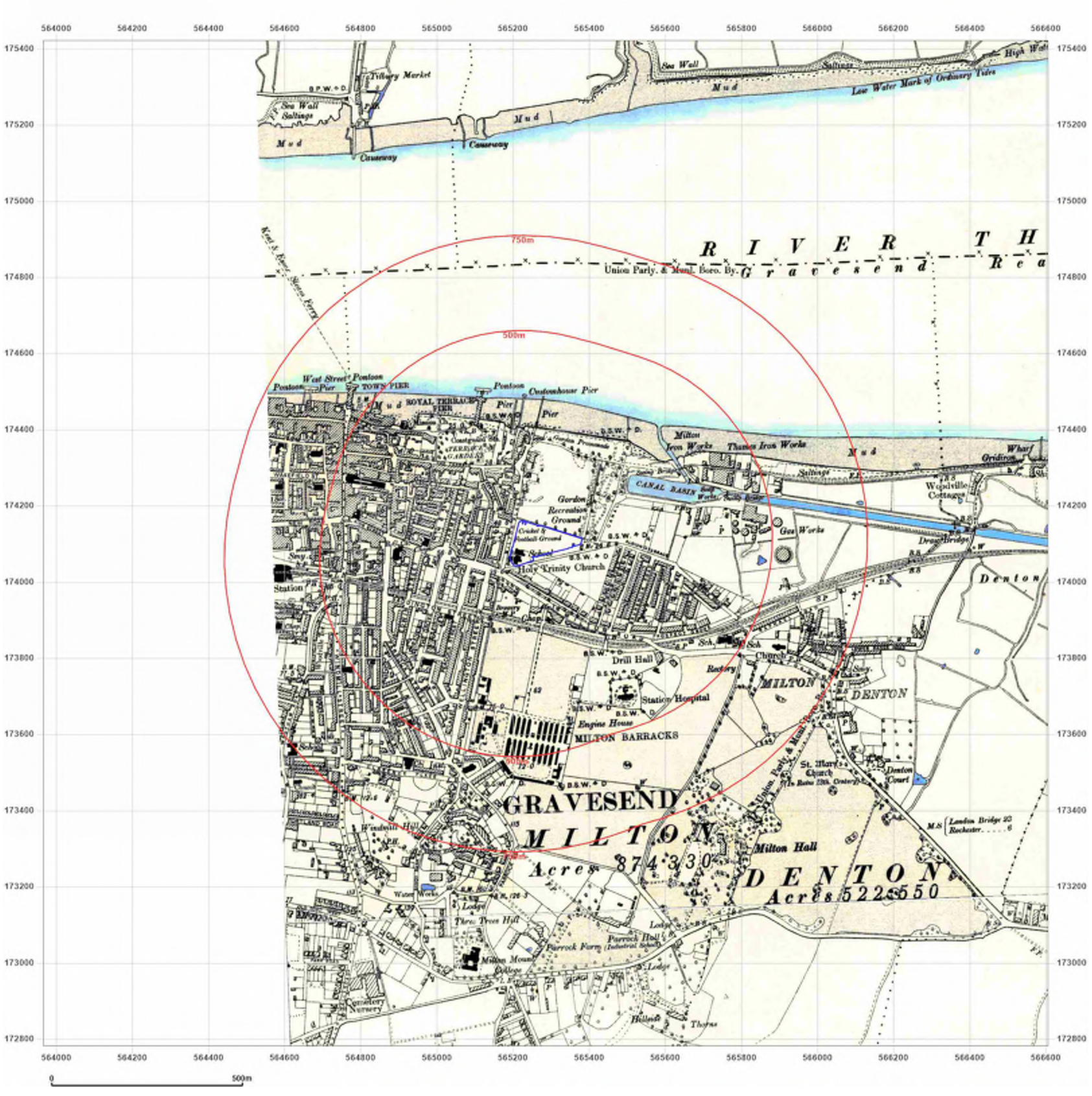
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1888**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

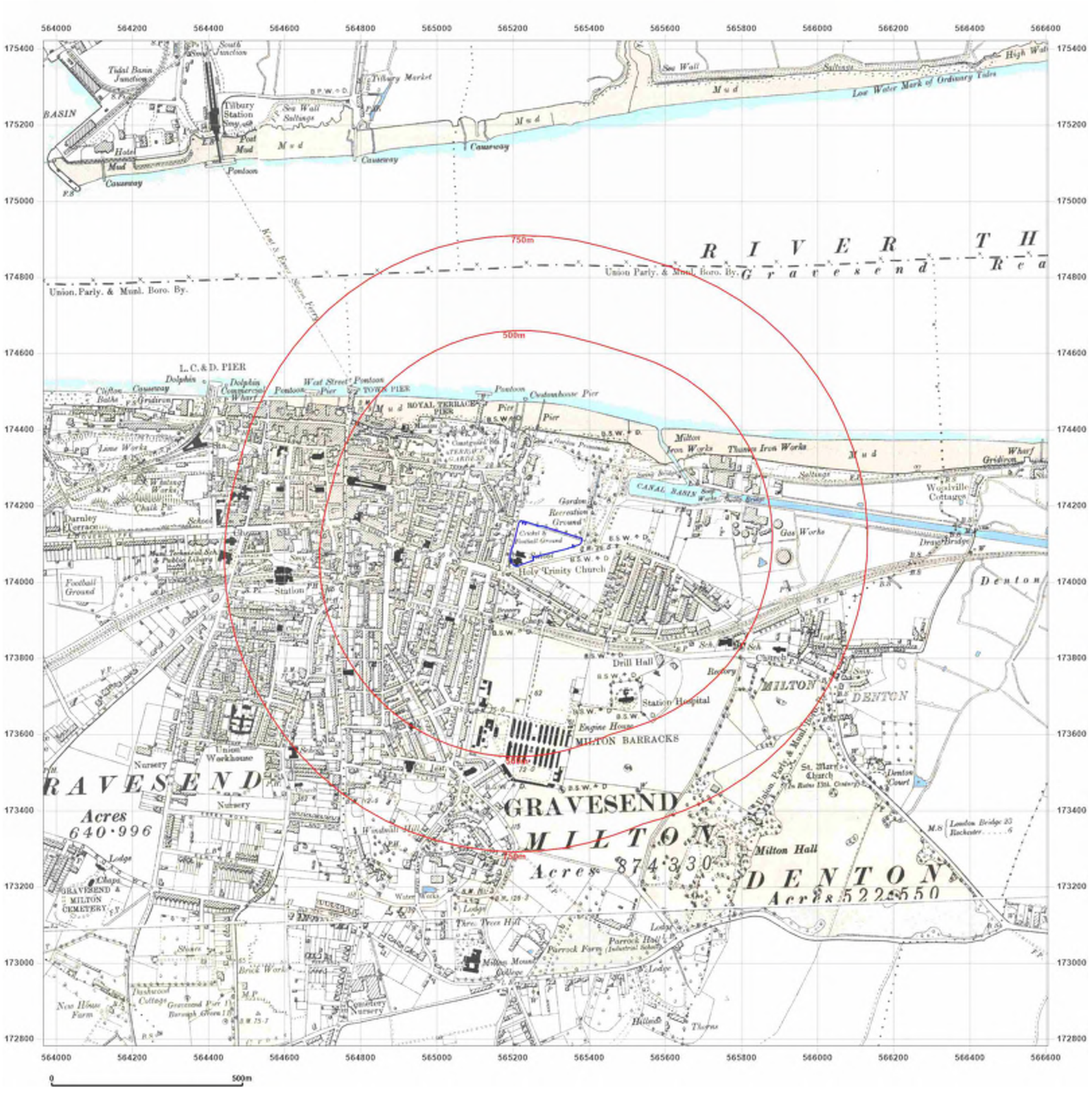
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Site Details:

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Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

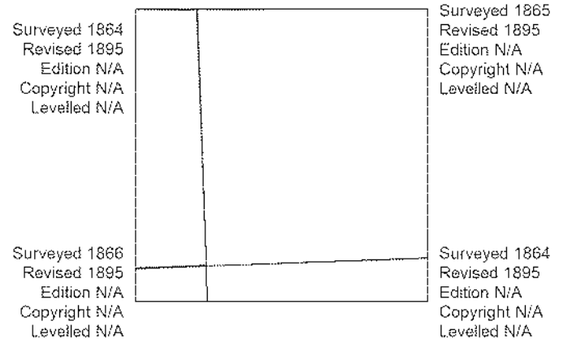
Map Name: County Series

Map date: **1895**

Scale: 1:10,560

Printed at: 1:10,560

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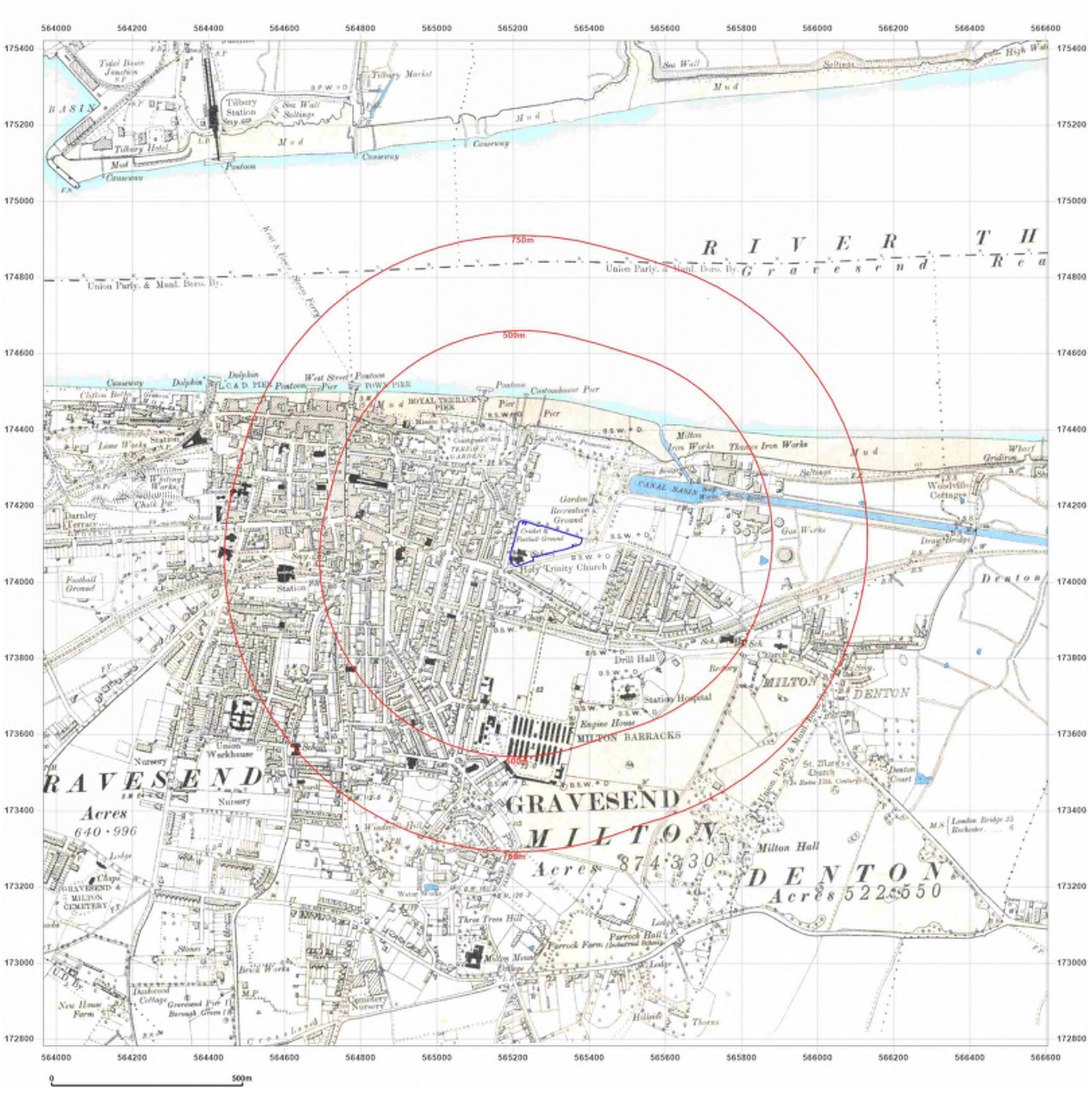
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1895**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1862
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

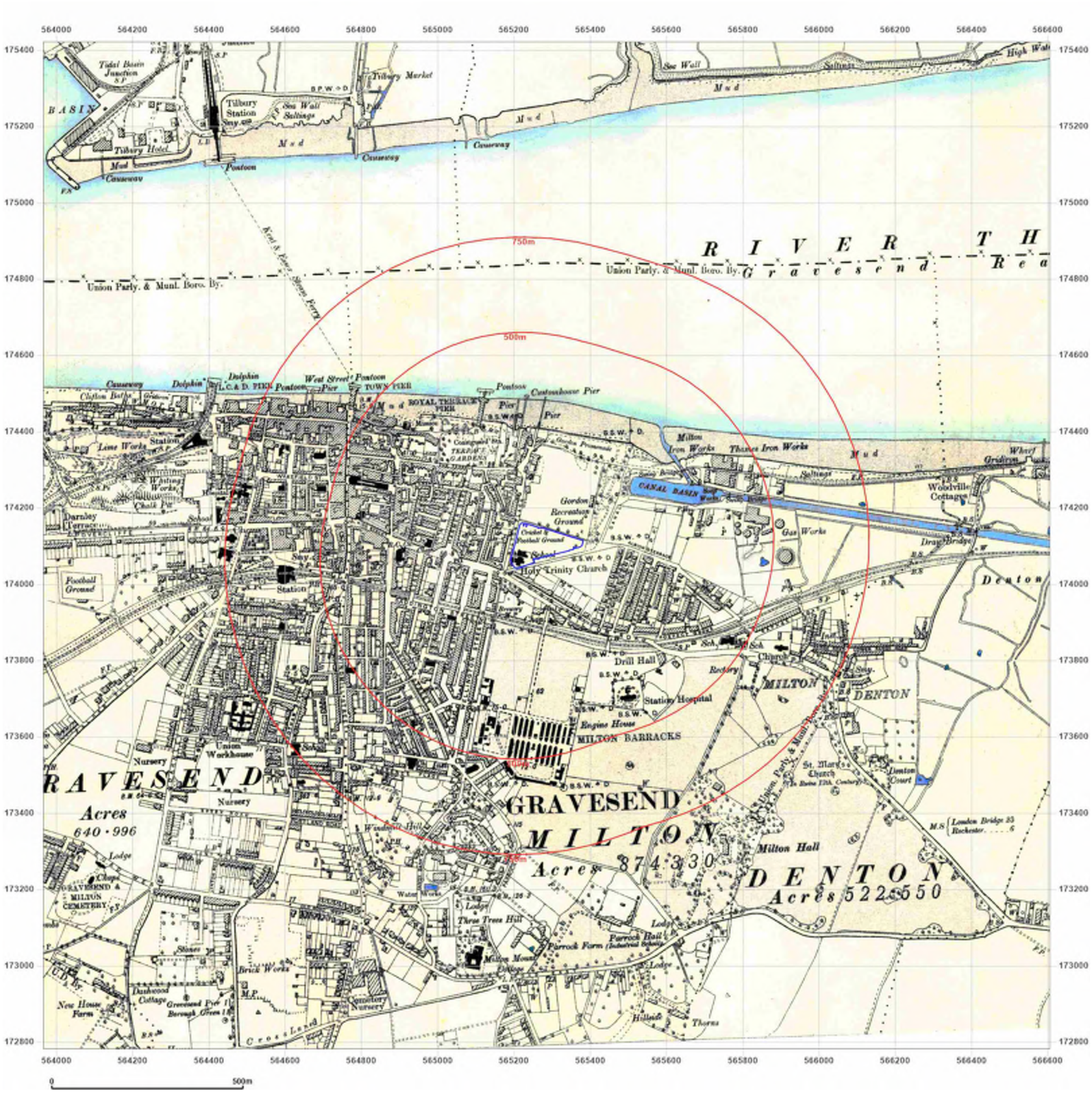
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1895**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1866
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

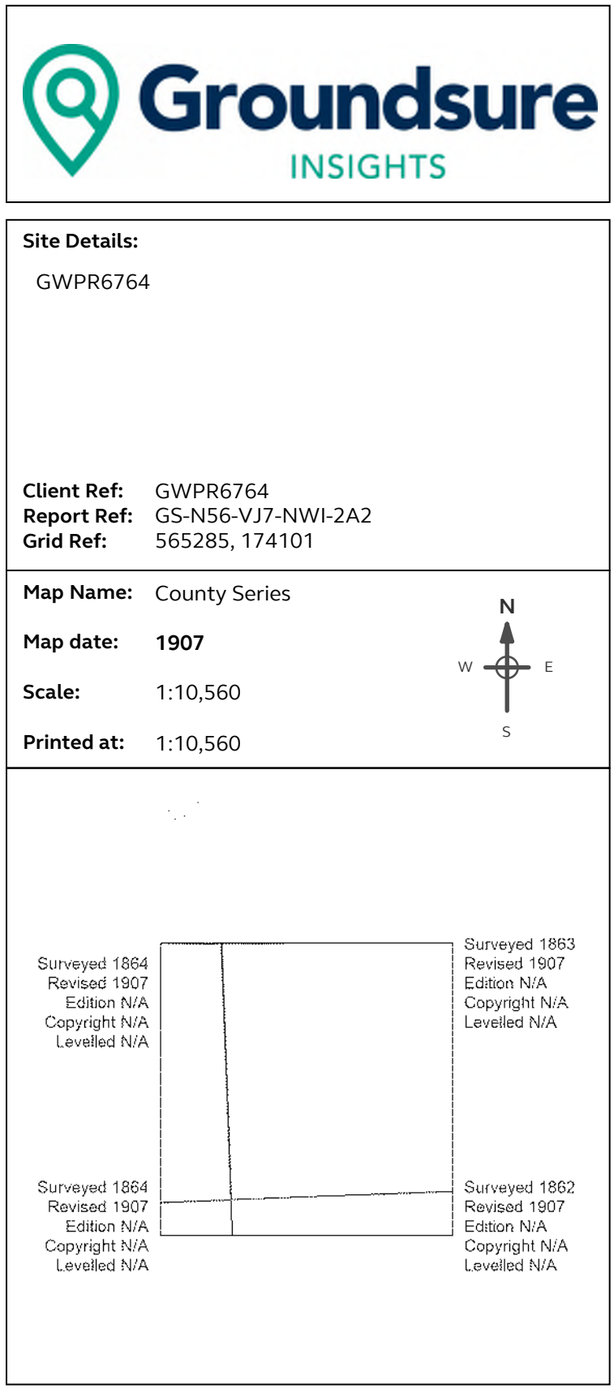
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Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1907**

Scale: 1:10,560

Printed at: 1:10,560

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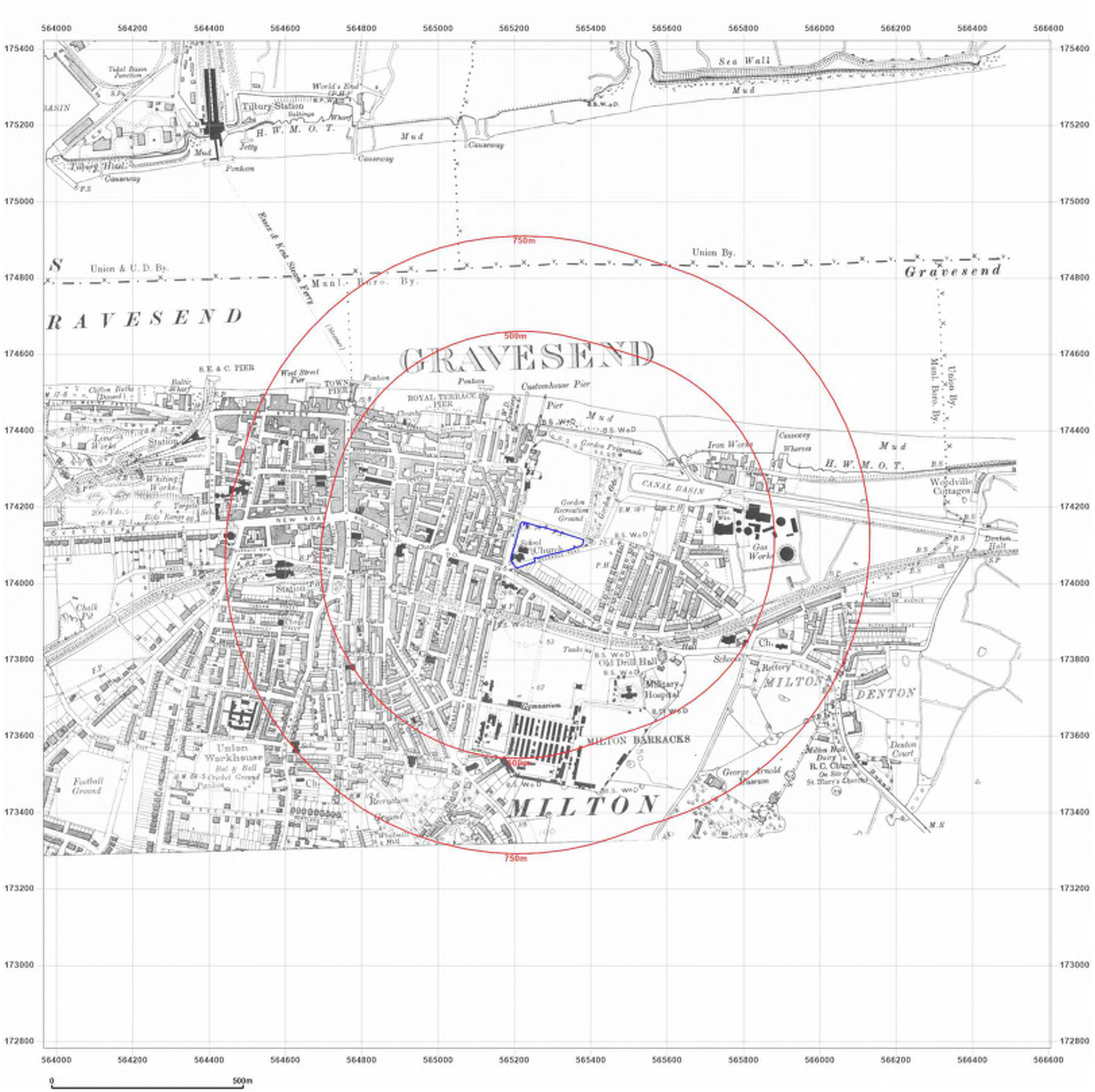
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Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

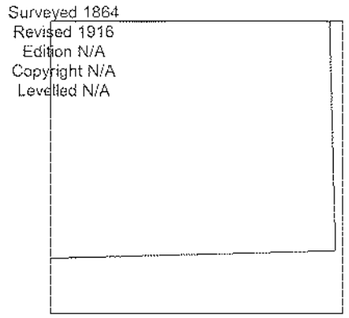
Map Name: County Series

Map date: **1916**

Scale: 1:10,560

Printed at: 1:10,560

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Site Details:

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Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: County Series

Map date: **1923**

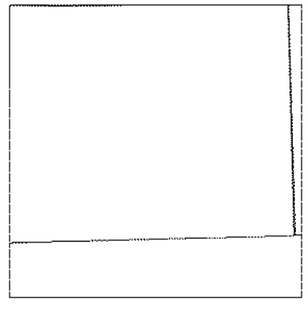
Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1864
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1862
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A



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Site Details:

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Grid Ref: 565285, 174101

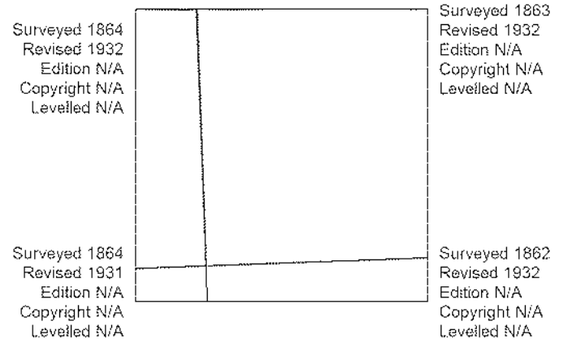
Map Name: County Series

Map date: **1931-1932**

Scale: 1:10,560

Printed at: 1:10,560

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Site Details:

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Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

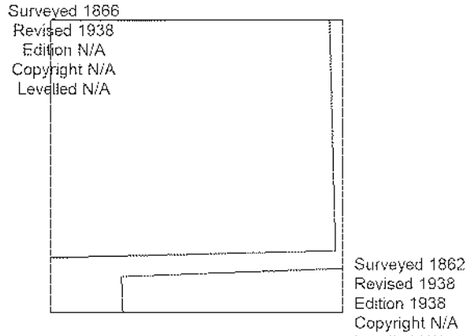
Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

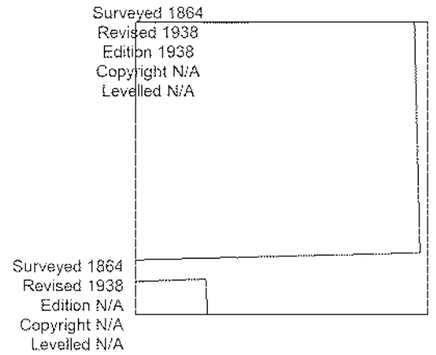
Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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Groundsure INSIGHTS

Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

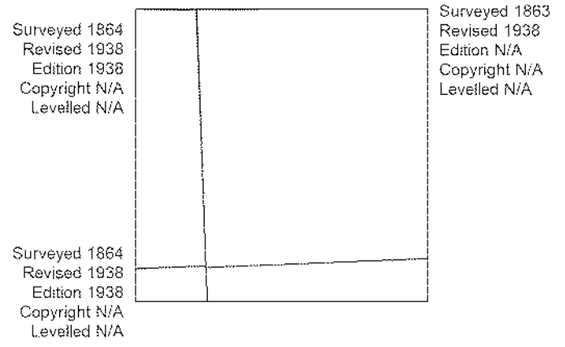
Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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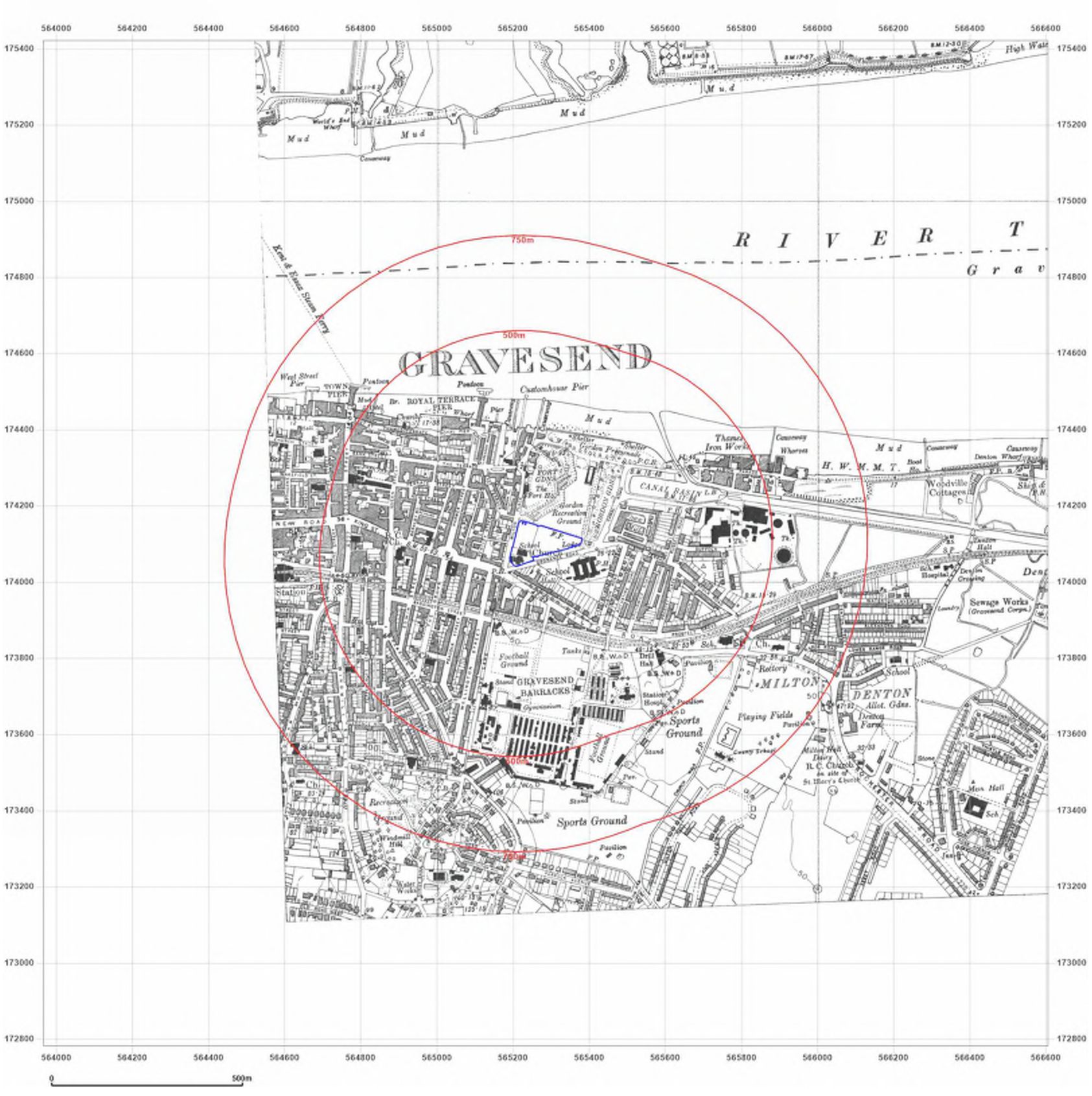
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

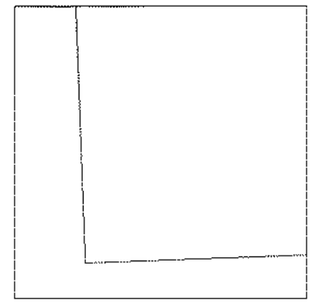
Map Name: County Series

Map date: **1951**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1863
Revised 1948
Edition 1951
Copyright N/A
Levelled N/A

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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: Provisional

Map date: **1955**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1864
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1864
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1864
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1863
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: Provisional

Map date: **1966-1967**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1966
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Copyright N/A
Levelled N/A

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Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

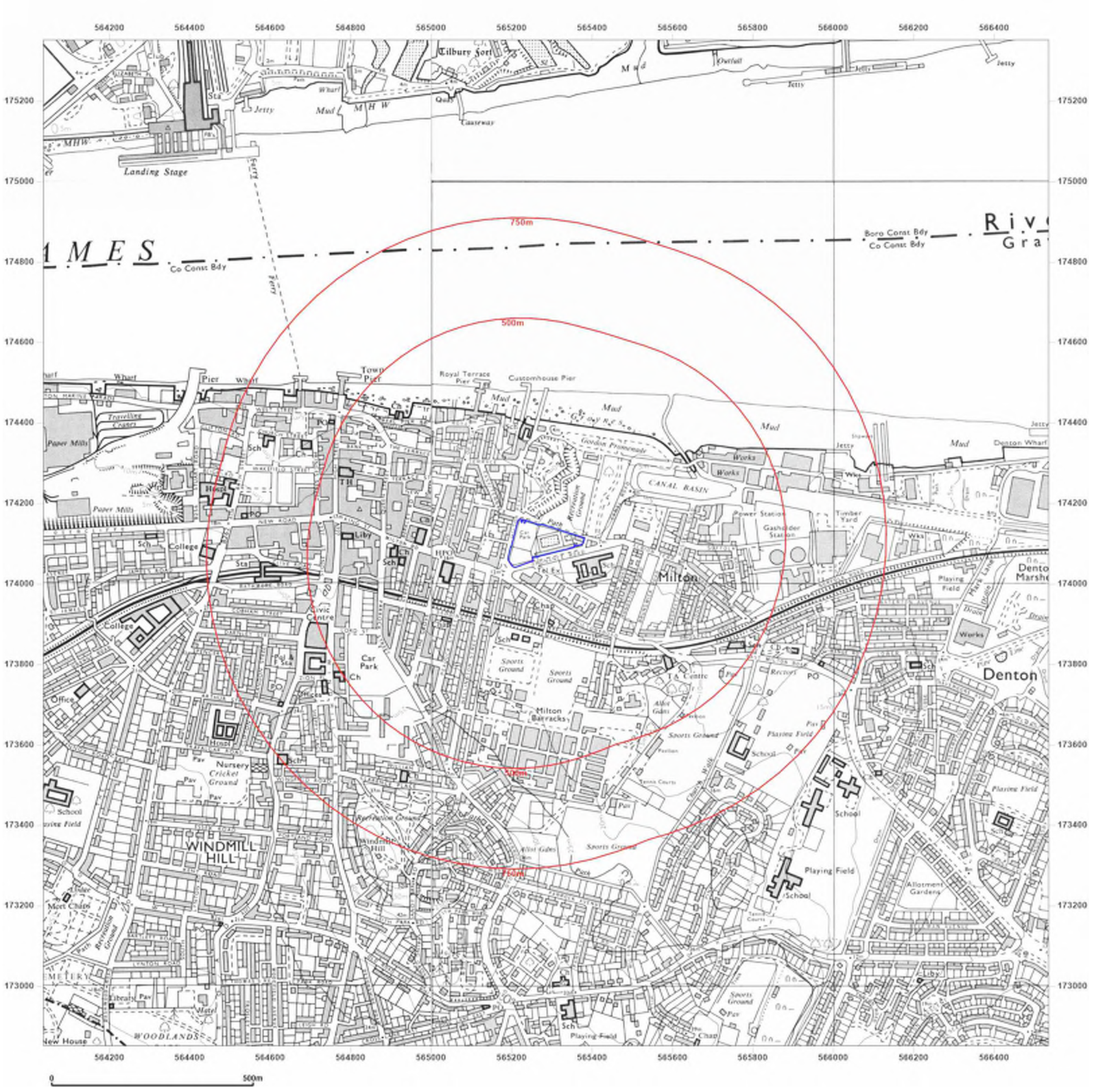
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1971-1973**

Scale: 1:10,000

Printed at: 1:10,000

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W E
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Surveyed 1973
Revised 1973
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1972
Revised 1973
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1971
Revised 1971
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Copyright N/A
Levelled N/A

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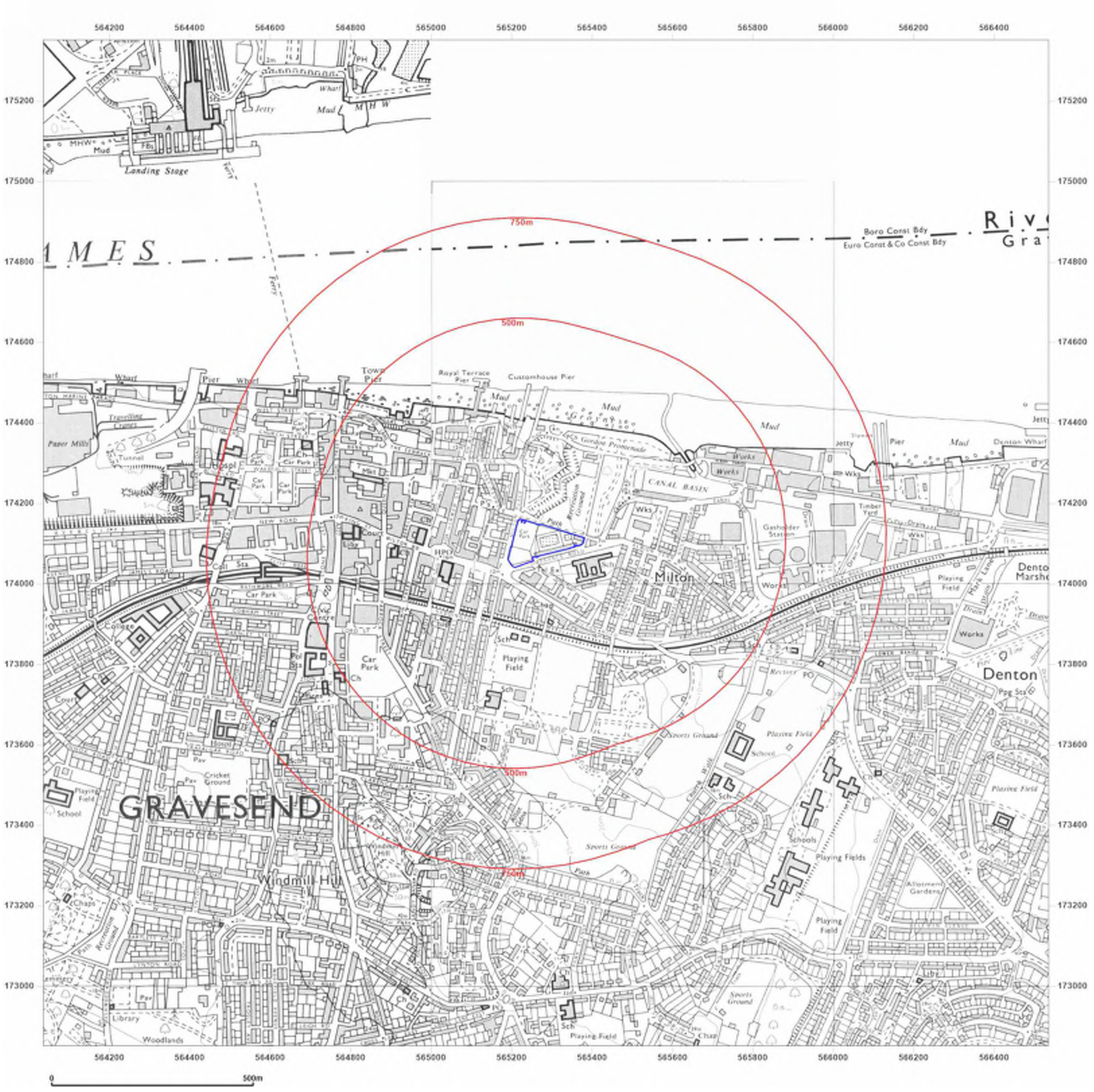
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GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1977-1982**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1981
Revised 1982
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1977
Revised 1977
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1980
Revised 1981
Edition N/A
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Groundsure INSIGHTS

Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **1990-1992**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1981
Revised 1992
Edition N/A
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Levelled N/A

Surveyed 1990
Revised 1991
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1988
Revised 1990
Edition N/A
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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2001

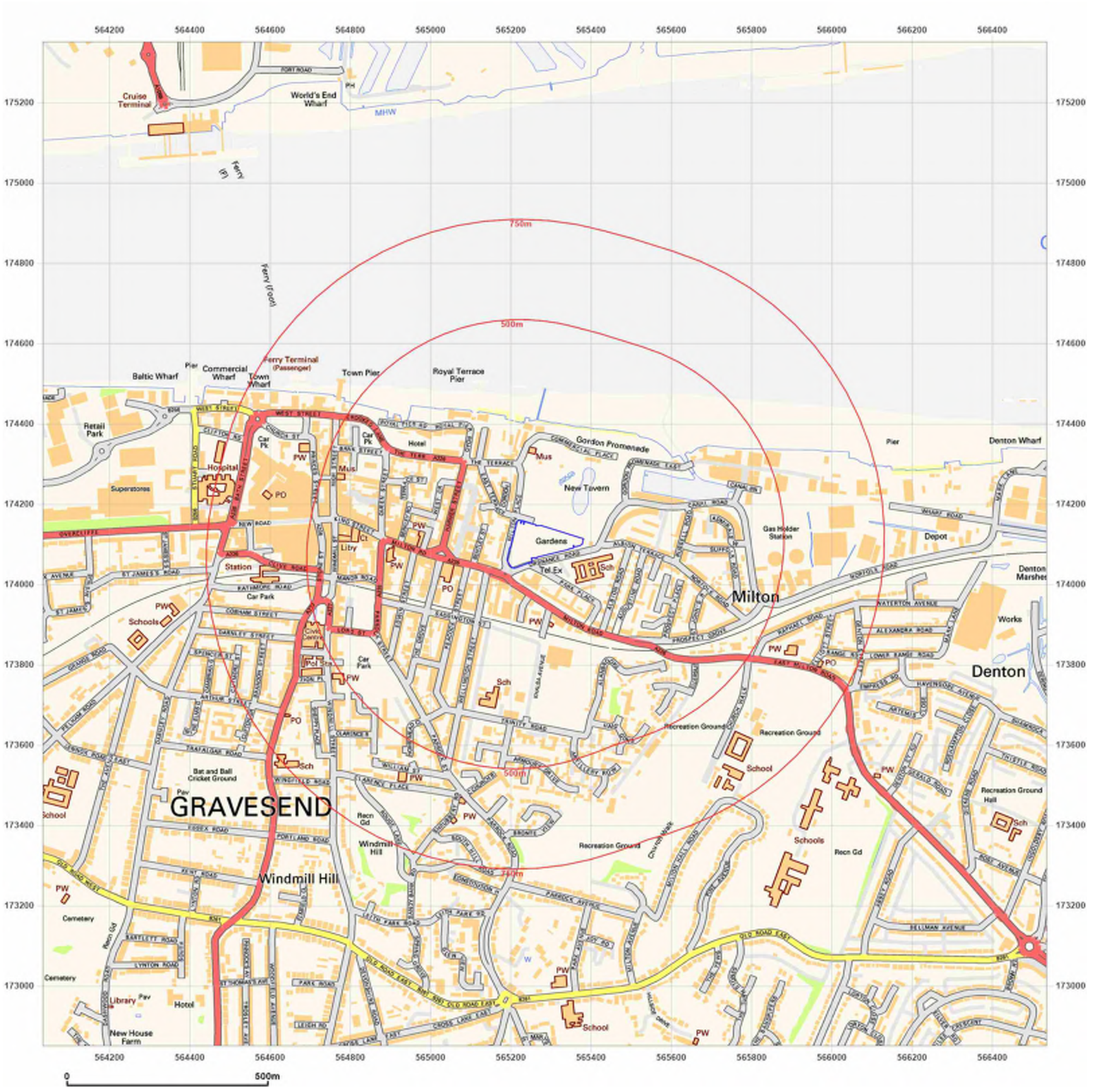
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Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

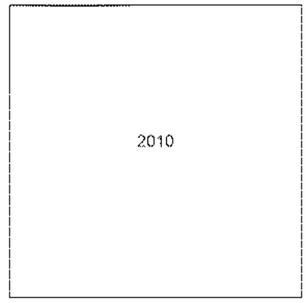
Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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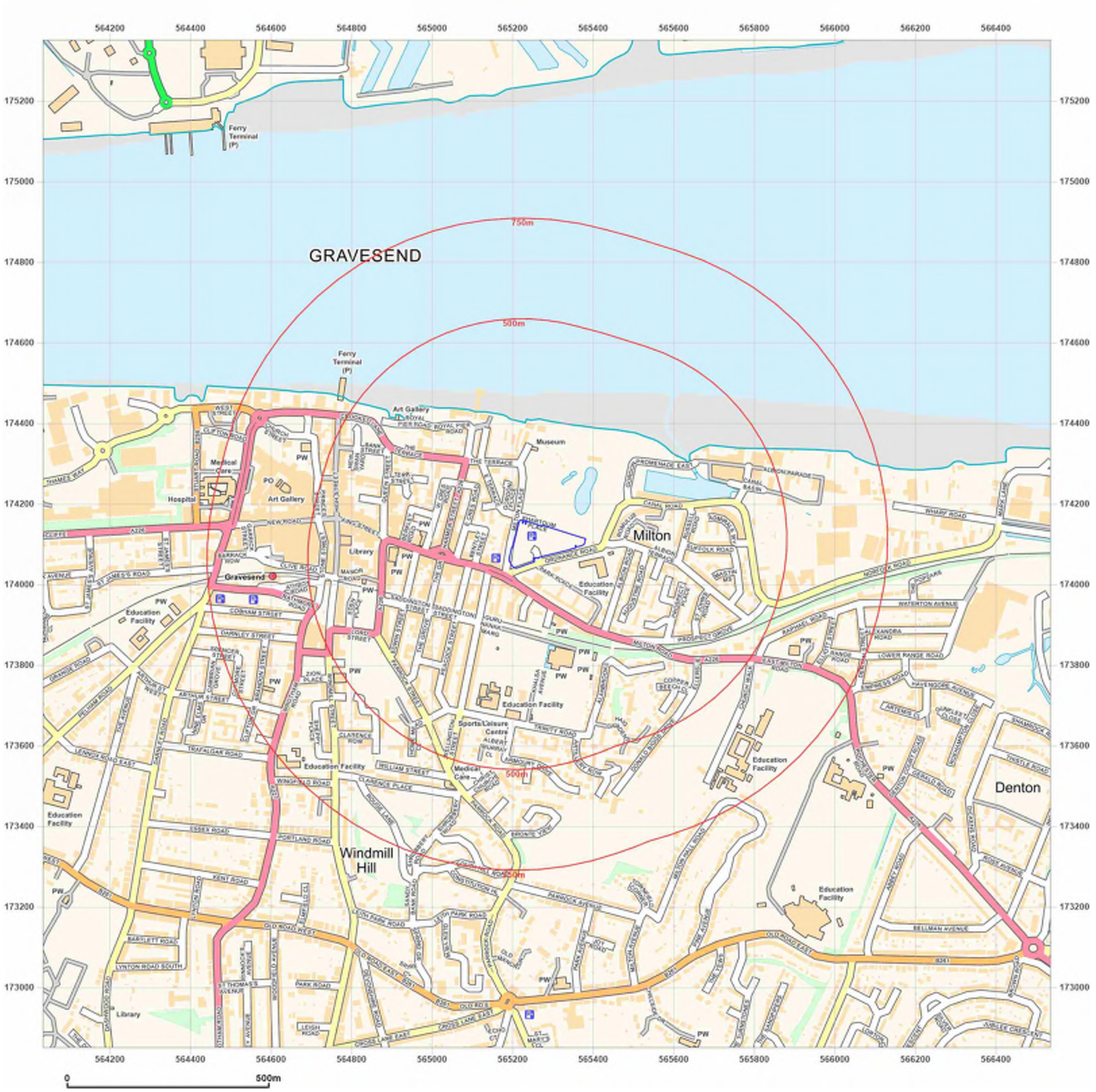
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Groundsure INSIGHTS

Site Details:

GWPR6764

Client Ref: GWPR6764
Report Ref: GS-N56-VJ7-NWI-2A2
Grid Ref: 565285, 174101

Map Name: National Grid

Map date: **2025**

Scale: 1:10,000

Printed at: 1:10,000

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2025

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Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

GWPR6764

Order Details

Date: 04/12/2025

Your ref: GWPR6764

Our Ref: GS-O7U-BP4-49Z-Y3M

Site Details

Location: 565266 174103

Area: 1.23 ha

Authority: Gravesham Borough Council ↗



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Summary of findings p. 2 >

Aerial image p. 9 >

OS MasterMap site plan p.14 >

Insight User Guide ↗

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Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	4	49	145	-
23 >	1.2 >	Historical tanks >	0	0	13	59	-
26 >	1.3 >	Historical energy features >	1	4	14	42	-
28	1.4	Historical petrol stations	0	0	0	0	-
28 >	1.5 >	Historical garages >	0	3	25	12	-
30	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
31 >	2.1 >	Historical industrial land uses >	0	8	72	183	-
41 >	2.2 >	Historical tanks >	0	0	22	85	-
45 >	2.3 >	Historical energy features >	1	4	24	72	-
49	2.4	Historical petrol stations	0	0	0	0	-
49 >	2.5 >	Historical garages >	0	4	32	19	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
52	3.1	Active or recent landfill	0	0	0	0	-
52	3.2	Historical landfill (BGS records)	0	0	0	0	-
53	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
53 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
53 >	3.5 >	Historical waste sites >	0	0	0	1	-
54	3.6	Licensed waste sites	0	0	0	0	-
54 >	3.7 >	Waste exemptions >	0	0	0	24	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
56 >	4.1 >	Recent industrial land uses >	0	3	22	-	-
58	4.2	National Geographic Database (NGD) - Current or recent tanks	0	0	0	-	-
58 >	4.3 >	Current or recent petrol stations >	0	0	1	0	-
59	4.4	Electricity cables	0	0	0	0	-
59	4.5	Gas pipelines	0	0	0	0	-

59	4.6	Sites determined as Contaminated Land	0	0	0	0	-
59 >	4.7 >	Control of Major Accident Hazards (COMAH) >	0	0	0	1	-
59	4.8	Regulated explosive sites	0	0	0	0	-
60 >	4.9 >	Hazardous substance storage/usage >	0	0	0	3	-
60	4.10	Historical licensed industrial activities (IPC)	0	0	0	0	-
60	4.11	Licensed industrial activities (Part A(1))	0	0	0	0	-
61 >	4.12 >	Licensed pollutant release (Part A(2)/B) >	0	0	1	3	-
61 >	4.13 >	Radioactive Substance Authorisations >	0	0	0	2	-
62 >	4.14 >	Licensed Discharges to controlled waters >	0	0	1	12	-
64	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
64	4.16	Pollutant release to public sewer	0	0	0	0	-
64	4.17	List 1 Dangerous Substances	0	0	0	0	-
65	4.18	List 2 Dangerous Substances	0	0	0	0	-
65 >	4.19 >	Pollution Incidents (EA/NRW) >	0	1	1	11	-
66	4.20	Pollution inventory substances	0	0	0	0	-
67	4.21	Pollution inventory waste transfers	0	0	0	0	-
67	4.22	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
68 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
70 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
72 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
73 >	5.4 >	Groundwater vulnerability- soluble rock risk >	Identified (within 0m)				
74 >	5.5 >	Groundwater vulnerability- local information >	Identified (within 0m)				
75 >	5.6 >	Groundwater abstractions >	0	0	0	0	9
78	5.7	Surface water abstractions	0	0	0	0	0
78 >	5.8 >	Potable abstractions >	0	0	0	0	2
79 >	5.9 >	Source Protection Zones >	0	0	0	1	-
79	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m

80	6.1	Water Network (OS MasterMap)	0	0	0	-	-
80 >	6.2 >	Surface water features >	0	0	5	-	-
81 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
81	6.4	WFD Surface water bodies	0	0	0	-	-
81 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
83 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
84	7.2	Historical Flood Events	0	0	0	-	-
84 >	7.3 >	Flood Defences >	0	0	1	-	-
84 >	7.4 >	Areas Benefiting from Flood Defences >	0	1	2	-	-
85	7.5	Flood Storage Areas	0	0	0	-	-
86 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
87 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
88 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
90 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
91 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
92 >	10.2 >	Conserved wetland sites (Ramsar sites) >	0	0	0	0	1
92	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
92	10.4	Special Protection Areas (SPA)	0	0	0	0	0
93	10.5	National Nature Reserves (NNR)	0	0	0	0	0
93	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
93	10.7	Designated Ancient Woodland	0	0	0	0	0
93	10.8	Biosphere Reserves	0	0	0	0	0
94	10.9	Forest Parks	0	0	0	0	0
94	10.10	Marine Conservation Zones	0	0	0	0	0
94 >	10.11 >	Green Belt >	0	0	0	0	2

94	10.12	Proposed Ramsar sites	0	0	0	0	0
95	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
95	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
95	10.15	Nitrate Sensitive Areas	0	0	0	0	0
95 >	10.16 >	Nitrate Vulnerable Zones >	0	0	0	1	1
97	10.17	SSSI Impact Risk Zones	0	-	-	-	-
98 >	10.18 >	SSSI Units >	0	0	0	0	1
Page	Section	**Visual and cultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
100	11.1	World Heritage Sites	0	0	0	-	-
101	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
101	11.3	National Parks	0	0	0	-	-
101 >	11.4 >	Listed Buildings >	0	6	26	-	-
103 >	11.5 >	Conservation Areas >	1	1	2	-	-
103 >	11.6 >	Scheduled Ancient Monuments >	0	1	0	-	-
104	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
105 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
106 >	12.2 >	Open Access Land >	0	0	1	-	-
106	12.3	Tree Felling Licences	0	0	0	-	-
106	12.4	Environmental Stewardship Schemes	0	0	0	-	-
106	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	**Habitat designations >**	On site	0-50m	50-250m	250-500m	500-2000m
107 >	13.1 >	Priority Habitat Inventory >	0	2	4	-	-
108 >	13.2 >	Habitat Networks >	2	2	1	-	-
108	13.3	Open Mosaic Habitat	0	0	0	-	-
108	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	**Geology 1:10,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
110 >	14.1 >	10k Availability >	Identified (within 500m)				
111 >	14.2 >	Artificial and made ground (10k) >	2	2	3	3	-

113 >	14.3 >	Superficial geology (10k) >	1	1	2	5	-
114	14.4	Landslip (10k)	0	0	0	0	-
115 >	14.5 >	Bedrock geology (10k) >	1	0	3	0	-
116	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	**Geology 1:50,000 scale** >	On site	0-50m	50-250m	250-500m	500-2000m
117 >	15.1 >	50k Availability >	Identified (within 500m)				
118 >	15.2 >	Artificial and made ground (50k) >	0	2	2	2	-
119 >	15.3 >	Artificial ground permeability (50k) >	0	1	-	-	-
120 >	15.4 >	Superficial geology (50k) >	1	1	2	2	-
121 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
121	15.6	Landslip (50k)	0	0	0	0	-
121	15.7	Landslip permeability (50k)	None (within 50m)				
122 >	15.8 >	Bedrock geology (50k) >	1	0	1	0	-
123 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
123	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	**Boreholes** >	On site	0-50m	50-250m	250-500m	500-2000m
124 >	16.1 >	BGS Boreholes >	0	3	24	-	-
Page	Section	**Natural ground subsidence** >					
126 >	17.1 >	Shrink swell clays >	Low (within 50m)				
128 >	17.2 >	Running sands >	Low (within 50m)				
130 >	17.3 >	Compressible deposits >	High (within 50m)				
132 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
133 >	17.5 >	Landslides >	Very low (within 50m)				
135 >	17.6 >	Ground dissolution of soluble rocks >	High (within 50m)				
Page	Section	**Mining and ground workings** >	On site	0-50m	50-250m	250-500m	500-2000m
137	18.1	BritPits	0	0	0	0	-
138 >	18.2 >	Surface ground workings >	4	4	52	-	-
140 >	18.3 >	Underground workings >	0	0	0	0	1
140	18.4	Underground mining extents	0	0	0	0	-

141	18.5	Historical Mineral Planning Areas	0	0	0	0	-
141 >	**18.6 >**	**Non-coal mining >**	1	0	1	0	10
142	18.7	JPB mining areas	None (within 0m)				
143	18.8	The Coal Authority non-coal mining	0	0	0	0	-
143 >	**18.9 >**	**Researched mining >**	0	0	0	1	-
143	18.10	Mining record office plans	0	0	0	0	-
143	18.11	BGS mine plans	0	0	0	0	-
144	18.12	Coal mining	None (within 0m)				
144	18.13	Brine areas	None (within 0m)				
144	18.14	Gypsum areas	None (within 0m)				
144	18.15	Tin mining	None (within 0m)				
144	18.16	Clay mining	None (within 0m)				
Page	Section	**Ground cavities and sinkholes >**	On site	0-50m	50-250m	250-500m	500-2000m
145 >	**19.1 >**	**Natural cavities >**	0	0	0	1	-
146 >	**19.2 >**	**Mining cavities >**	0	0	0	0	3
146	19.3	Reported recent incidents	0	0	0	0	-
146	19.4	Historical incidents	0	0	0	0	-
Page	Section	**Radon >**					
147 >	**20.1 >**	**Radon >**	Less than 1% (within 0m)				
Page	Section	**Soil chemistry >**	On site	0-50m	50-250m	250-500m	500-2000m
149 >	**21.1 >**	**BGS Estimated Background Soil Chemistry >**	1	4	-	-	-
149	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
150	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	**Railway infrastructure and projects >**	On site	0-50m	50-250m	250-500m	500-2000m
151	22.1	Underground railways (London)	0	0	0	-	-
151	22.2	Underground railways (Non-London)	0	0	0	-	-
152	22.3	Railway tunnels	0	0	0	-	-
152 >	**22.4 >**	**Historical railway and tunnel features >**	0	0	4	-	-
152	22.5	Royal Mail tunnels	0	0	0	-	-

153	22.6	Historical railways	0	0	0	-	-
153 >	**22.7 >**	**Railways >**	0	0	8	-	-
153	22.8	Crossrail 2	0	0	0	0	-
154	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 31/05/2021

Site Area: 1.23ha

Recent site history - 2018 aerial photograph



Capture Date: 01/09/2018

Site Area: 1.23ha

Recent site history - 2014 aerial photograph



Capture Date: 31/07/2014

Site Area: 1.23ha

Recent site history - 2009 aerial photograph



Capture Date: 27/09/2009

Site Area: 1.23ha

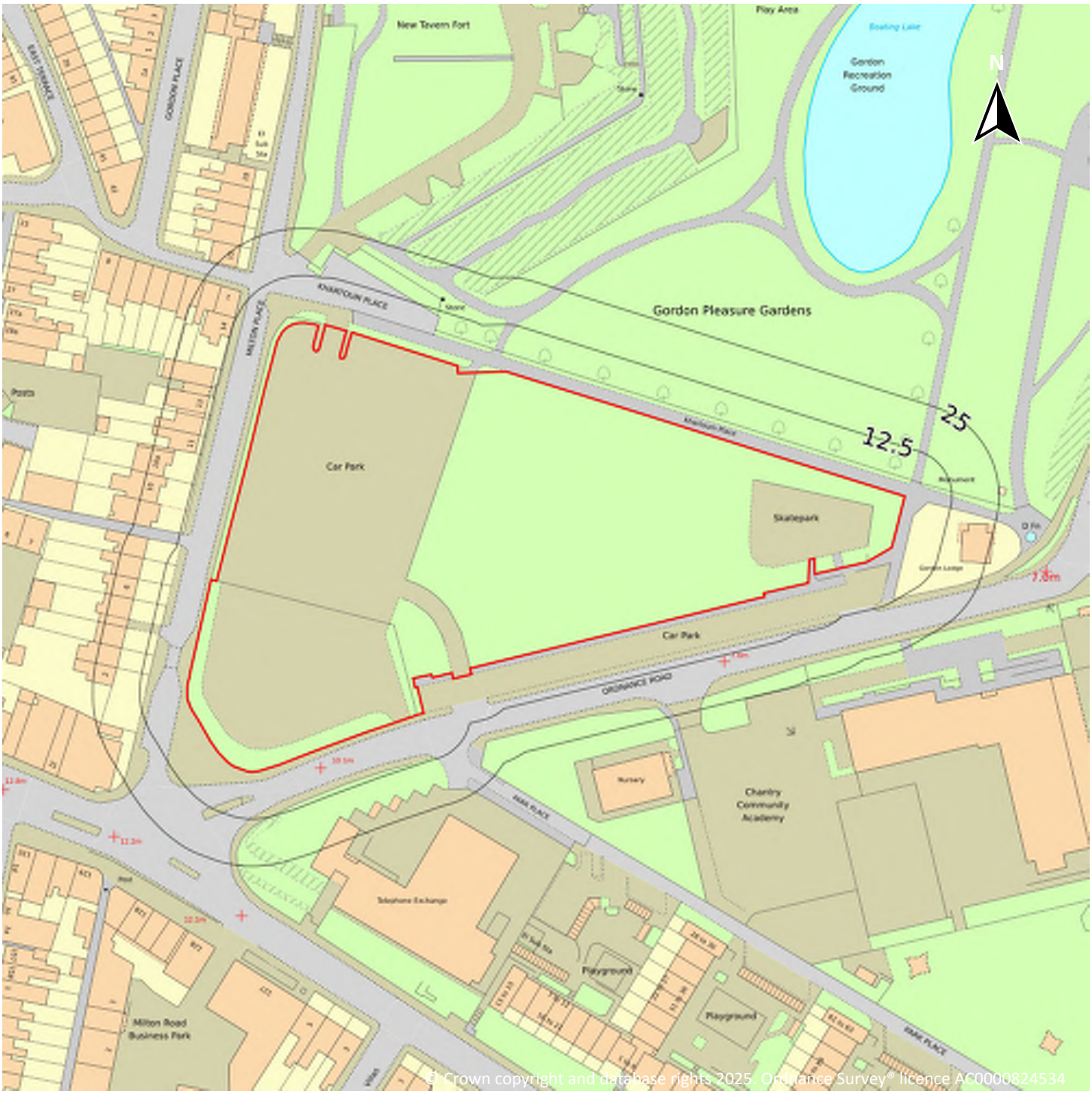
Recent site history - 1999 aerial photograph



Capture Date: 03/09/1999

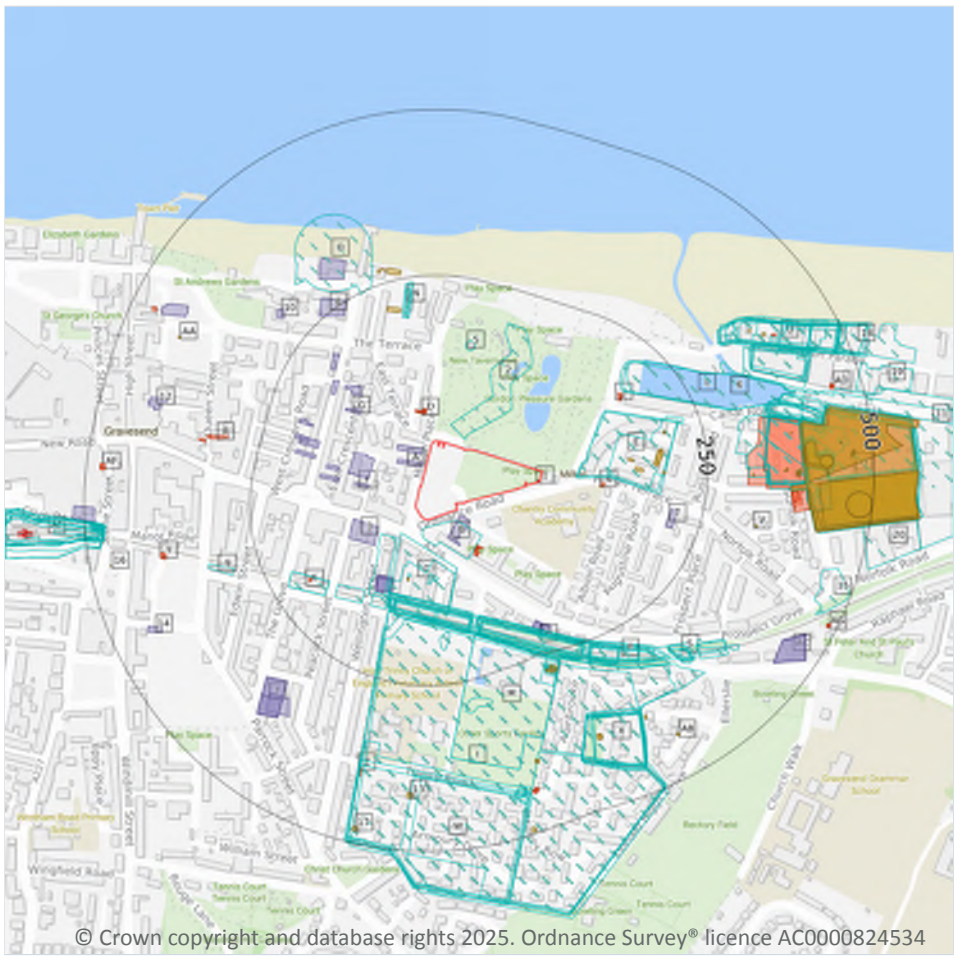
Site Area: 1.23ha

OS MasterMap site plan



Site Area: 1.23ha

1 Past land use



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	198

Potentially contaminative land use features digitised from historical Ordnance Survey® mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
B	10m S	Telephone Exchange	1973 - 1981	2216808

ID	Location	Land use	Dates present	Group ID
2	14m N	Unspecified Ground Workings	1955 - 1981	2280321
C	36m SW	Brewery	1895	2207547
C	49m SW	Brewery	1888	2159119
E	52m E	Sawmill	1932	2313752
E	54m E	Sawmill	1938 - 1951	2272176
C	61m S	Brewery	1895	2308979
C	81m S	Brewery	1895	2242940
C	85m S	Unspecified Tank	1895	2190539
E	99m E	Unspecified Works	1981	2182397
C	119m S	Cuttings	1916	2260015
C	120m S	Cuttings	1938	2262171
C	121m S	Cuttings	1895	2228506
H	121m S	Cuttings	1938	2224869
C	125m S	Cuttings	1955 - 1981	2320835
H	126m S	Cuttings	1932	2325595
H	126m S	Cuttings	1895	2318211
H	126m S	Cuttings	1895	2324749
C	127m S	Cuttings	1951	2213863
C	127m S	Cuttings	1895	2288828
C	127m S	Cuttings	1907	2318233
C	127m S	Cuttings	1938	2324035
C	128m SW	Cuttings	1955 - 1981	2229417
C	130m S	Cuttings	1888	2258801
C	132m S	Cuttings	1923	2269165
C	139m SW	Cuttings	1955 - 1981	2252369
I	142m S	Barracks	1938	2236102
5	144m N	Unspecified Tank	1955 - 1981	2221051
I	146m S	Barracks	1932 - 1938	2241091

ID	Location	Land use	Dates present	Group ID
I	147m S	Barracks	1955 - 1973	2220626
I	153m S	Barracks	1923	2304167
H	162m S	Cuttings	1916	2287361
H	162m S	Cuttings	1895	2285218
H	163m S	Cuttings	1938	2263723
H	167m S	Cuttings	1888	2297814
H	168m S	Cuttings	1955 - 1981	2290139
K	169m SW	Cuttings	1955 - 1966	2209840
K	169m SW	Cuttings	1973	2274381
H	172m S	Cuttings	1907	2207053
H	172m S	Cuttings	1938	2264612
H	172m S	Cuttings	1895	2302079
H	172m S	Cuttings	1951	2322215
C	172m S	Unspecified Heap	1955	2186818
L	172m NE	Canal Basin	1888	2264311
H	175m S	Cuttings	1923	2209380
L	175m NE	Canal Basin	1895	2273341
6	182m NE	Disused Canal	1966	2267240
M	187m S	Barracks	1951	2221536
M	187m S	Barracks	1938	2247959
N	190m N	Coastguard Station	1895	2309116
N	192m N	Coastguard Station	1888	2282740
N	197m N	Coastguard Station	1895	2293020
O	248m NW	Unspecified Wharf	1932 - 1951	2275753
P	254m S	Cuttings	1938	2251473
P	258m S	Cuttings	1907	2317066
P	258m S	Cuttings	1938	2320322
P	258m S	Cuttings	1951	2328474

ID	Location	Land use	Dates present	Group ID
P	259m S	Cuttings	1888 - 1895	2318880
P	262m S	Cuttings	1923	2257818
H	265m S	Unspecified Tanks	1938	2230731
H	266m S	Tanks	1916	2174782
H	269m S	Unspecified Tanks	1932	2246333
H	270m S	Unspecified Tanks	1951	2203269
H	270m S	Unspecified Tanks	1907	2307840
H	273m S	Unspecified Tanks	1923	2213703
M	277m S	Unspecified Quarry	1865	2185178
9	289m W	Railway Building	1955	2195547
Q	293m E	Unspecified Commercial/Industrial	1932	2271924
Q	309m E	Power Station	1973	2158347
S	315m SE	Cuttings	1916	2240164
S	318m SE	Cuttings	1938	2223782
S	320m SE	Cuttings	1907	2238388
S	320m SE	Cuttings	1938	2285375
S	320m SE	Cuttings	1951	2307685
U	328m NE	Iron Works	1895	2297867
U	330m NE	Iron Works	1888	2302459
U	331m NE	Iron Works	1895	2246647
S	332m SE	Cuttings	1923	2298997
U	332m NE	Iron Works	1938	2242599
Q	336m E	Unspecified Commercial/Industrial	1938	2236071
Q	336m E	Unspecified Commercial/Industrial	1938	2258803
U	336m NE	Soap Works	1865 - 1888	2236361
Q	337m E	Electricity Works	1923	2167384
Q	337m E	Electric Works	1916	2173888
Q	338m E	Coal Store	1865	2169837

ID	Location	Land use	Dates present	Group ID
S	338m SE	Railway Station	1916	2228773
U	339m NE	Unspecified Works	1966 - 1973	2238917
U	342m NE	Unspecified Works	1981	2205693
S	342m SE	Railway Station	1938	2234427
Q	342m E	Railway Sidings	1966	2277719
W	344m S	Barracks	1895	2270209
S	345m SE	Railway Building	1923	2195819
U	349m NE	Soap Works	1895	2204618
Q	350m E	Railway Sidings	1907	2203015
Q	350m E	Railway Sidings	1938 - 1951	2272315
Q	351m E	Railway Sidings	1938	2247197
U	351m NE	Unspecified Works	1966 - 1981	2300827
Q	351m E	Railway Sidings	1938	2249030
U	352m NE	Soap Works	1895	2292018
U	352m NE	Iron Works	1932	2207092
U	353m NE	Soap Works	1895	2210618
X	353m S	Military Hospital	1916	2231418
U	354m NE	Unspecified Works	1955	2256872
X	356m S	Hospital	1938	2203609
X	356m S	Hospital	1895	2271885
Q	357m E	Railway Sidings	1923 - 1932	2230146
X	357m S	Hospital	1932	2278948
X	358m S	Military Hospital	1938	2306242
X	361m S	Hospital	1895	2224287
X	361m S	Hospital	1923 - 1938	2270172
X	361m S	Hospital	1951	2295730
X	361m S	Hospital	1907	2301818
X	362m S	Station Hospital	1895	2288447

ID	Location	Land use	Dates present	Group ID
X	364m S	Station Hospital	1888	2225999
U	367m NE	Iron Works	1938 - 1951	2299870
I	374m S	Barracks	1916	2330734
Q	375m E	Unspecified Works	1955	2182565
Q	375m E	Unspecified Commercial/Industrial	1966	2269849
W	382m S	Barracks	1907	2293463
W	385m S	Barracks	1865	2324418
W	388m S	Barracks	1888	2285959
U	390m NE	Iron Works	1907	2309167
Q	392m E	Gas Works	1907	2202788
Q	392m E	Gas Works	1888 - 1895	2329608
Q	394m E	Unspecified Tanks	1895	2315504
Q	395m E	Unspecified Tank	1938	2253277
Q	395m E	Unspecified Tanks	1907	2268695
Q	395m E	Unspecified Tanks	1951	2278855
Q	395m E	Unspecified Commercial/Industrial	1938 - 1951	2255705
Q	395m E	Unspecified Tank	1932	2284824
Q	395m E	Gasometers	1888	2268834
U	396m NE	Iron Works	1916	2271252
Q	396m E	Gas Works	1895	2290023
Q	396m E	Gas Works	1865	2331282
Q	397m E	Unspecified Tank	1938	2209879
Q	397m E	Gas Works	1895	2325548
Q	397m E	Gas Works	1916 - 1923	2300346
Q	397m E	Unspecified Tank	1938	2302565
Q	398m E	Gasometer	1895	2161481
Q	398m E	Gasometers	1865	2296554
Q	398m E	Unspecified Tank	1907	2318194

ID	Location	Land use	Dates present	Group ID
Q	399m E	Gasometer	1895	2161434
Q	399m E	Gasometers	1865	2314119
Q	399m E	Gasometers	1916	2294773
Q	399m E	Unspecified Tanks	1938	2290752
Q	399m E	Gasometers	1923	2223255
Q	399m E	Gasometers	1895	2267533
11	400m E	Timber Yard	1973 - 1981	2250413
U	401m NE	Iron Works	1923	2288467
Q	408m E	Refuse Heap	1888	2204999
Q	408m E	Refuse Heap	1895	2297916
Q	413m E	Refuse Heap	1895	2302522
Q	413m E	Refuse Heap	1895	2308927
Q	415m E	Unspecified Ground Workings	1938 - 1951	2293314
Q	415m E	Unspecified Heap	1932	2323441
Q	416m E	Unspecified Tank	1895	2327566
Q	417m E	Unspecified Tank	1938	2314183
Q	418m E	Gasometers	1865	2291742
Q	419m E	Gasometer	1895	2261241
Q	420m E	Gas Holder Station	1973 - 1981	2321505
Q	422m E	Gasometer	1923	2250546
I	427m S	Engine House	1888 - 1895	2252447
Q	428m E	Unspecified Tank	1932	2210279
Q	428m E	Unspecified Tank	1951	2312798
Q	428m E	Unspecified Tank	1938	2324945
I	429m S	Engine House	1895 - 1907	2222187
I	434m S	Engine House	1895	2230335
I	435m S	Engine House	1865	2329121
U	439m NE	Iron Works	1888	2236996

ID	Location	Land use	Dates present	Group ID
U	440m NE	Iron Works	1895	2323432
U	440m NE	Iron Works	1895	2329264
U	443m NE	Iron Works	1895	2243828
15	447m E	Unspecified Heap	1865	2186820
Q	462m E	Unspecified Tanks	1973 - 1981	2302956
AE	469m W	Railway Sidings	1990	2229259
AE	469m W	Railway Sidings	1971	2287784
AE	469m W	Railway Sidings	1977	2330977
AE	469m W	Railway Building	1895	2221688
AE	471m W	Railway Building	1895	2266007
AE	471m W	Railway Sidings	1895	2290267
AE	471m W	Railway Sidings	1966	2277668
AE	471m W	Railway Sidings	1955	2285580
AE	472m W	Railway Sidings	1932 - 1951	2205457
AE	473m W	Railway Sidings	1923	2246454
AE	474m W	Railway Sidings	1907	2240976
AE	474m W	Railway Sidings	1895	2269307
AE	474m W	Railway Sidings	1938	2252863
AE	475m W	Railway Sidings	1938	2234535
AE	478m W	Railway Sidings	1865	2249490
AE	479m W	Railway Building	1865	2257381
AE	480m W	Railway Building	1932	2300375
18	481m NE	Unspecified Wharves	1938	2213164
AE	481m W	Railway Building	1938	2308199
AE	481m W	Railway Building	1865	2195691
AE	483m W	Railway Building	1938	2234082
19	489m E	Unspecified Works	1966	2182558
20	491m E	Unspecified Works	1981	2182564

ID	Location	Land use	Dates present	Group ID
AE	497m W	Railway Sidings	1916	2211374

This data is sourced from Ordnance Survey® / Groundsure.

1.2 Historical tanks

Records within 500m	**72**

Tank features digitised from historical Ordnance Survey® mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
C	92m S	Unspecified Tank	1983	432033
C	92m S	Unspecified Tank	1984	422597
C	93m S	Unspecified Tank	1996	407766
C	93m S	Unspecified Tank	1997	417941
C	93m S	Unspecified Tank	1993	426056
E	131m E	Unspecified Tank	1976 - 1980	414472
E	140m E	Tanks	1967 - 1980	420808
E	170m E	Tanks	1967 - 1976	423313
E	170m E	Tanks	1980	402810
E	182m E	Unspecified Tank	1967 - 1980	405323
E	192m E	Unspecified Tank	1976	403725
E	192m E	Unspecified Tank	1980	401359
N	201m N	Unspecified Tank	1953	394713
N	256m N	Unspecified Tank	1958	394719
N	267m N	Tanks	1932	380001
N	268m N	Tanks	1932	380002
H	269m S	Tanks	1955	412440

ID	Location	Land use	Dates present	Group ID
H	272m S	Tanks	1953	430472
H	274m S	Tanks	1909 - 1932	413021
H	275m S	Tanks	1953	399470
Q	317m E	Unspecified Tank	1953 - 1969	411166
V	331m E	Unspecified Tank	1969	402883
V	331m E	Unspecified Tank	1967	411492
V	331m E	Unspecified Tank	1976	418910
V	332m E	Unspecified Tank	1980	403472
Q	365m E	Tanks	1932	380005
Q	367m E	Unspecified Tank	1967	418951
Q	367m E	Unspecified Tank	1953	428135
Q	367m E	Unspecified Tank	1958	405192
Q	367m E	Unspecified Tank	1969	414561
Q	368m E	Tanks	1932	380004
U	376m NE	Unspecified Tank	1976 - 1980	425453
Q	376m E	Gasholder Station	1969	403037
Q	379m E	Unspecified Tank	1866	394720
Q	382m E	Tanks	1932	380006
Q	383m E	Tanks	1932	380003
Q	386m E	Tanks	1932	380007
Q	387m E	Unspecified Tank	1967 - 1969	401417
X	387m SE	Unspecified Tank	1953 - 1955	408083
X	389m S	Unspecified Tank	1953	422124
X	389m S	Unspecified Tank	1970	431970
X	389m S	Unspecified Tank	1955	411083
U	390m NE	Unspecified Tank	1980	394726
Q	393m E	Gas Works	1897 - 1909	417340
I	394m S	Unspecified Tank	1984 - 1993	408302

ID	Location	Land use	Dates present	Group ID
I	395m S	Unspecified Tank	1983	421714
Q	395m E	Unspecified Tank	1932	394722
Q	396m E	Gasometers	1897 - 1909	400683
Q	397m E	Tanks	1932	380008
Q	397m E	Gas Works	1866	420096
Q	399m E	Gasometers	1866	404618
Q	402m E	Gasholder Station	1967	429463
AA	411m NW	Unspecified Tank	1955	406635
AA	411m NW	Unspecified Tank	1953	410767
13	412m S	Unspecified Tank	1952 - 1984	413249
Q	417m E	Gasholder Station	1976	412600
Q	418m E	Gasholder Station	1980	398546
Q	420m E	Unspecified Tank	1953 - 1958	425779
Q	428m E	Unspecified Tank	1932	394715
AB	434m SE	Unspecified Tank	1897	407795
AB	434m SE	Unspecified Tank	1932	423338
Q	451m E	Unspecified Tank	1866	394721
Q	461m E	Gasholder	1969	418322
Q	461m E	Gasholder	1967	399110
Q	461m E	Gasholder	1976	413418
Q	462m E	Gasholder	1980	405109
Q	466m E	Tanks	1897 - 1932	419122
16	467m W	Unspecified Tank	1994	388813
Q	469m E	Tanks	1953 - 1958	406024
17	474m S	Unspecified Tank	1932 - 1970	399475
Q	486m E	Unspecified Tank	1953 - 1958	422786
I	489m S	Unspecified Tank	1953 - 1970	431684

This data is sourced from Ordnance Survey® / Groundsure.

1.3 Historical energy features

Records within 500m	**61**

Energy features digitised from historical Ordnance Survey® mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Electricity Substation**	**1958**	**269182**
D	43m N	Electricity Substation	1993	281968
D	45m N	Electricity Substation	1986	292121
D	45m N	Electricity Substation	1980	312792
D	48m NW	Electricity Substation	1976	305236
B	61m SE	Electricity Substation	1993	302165
B	63m SE	Electricity Substation	1976	305948
B	63m SE	Electricity Substation	1980	307950
B	63m SE	Electricity Substation	1986	317694
B	63m SE	Electricity Substation	1983	281945
B	64m SE	Electricity Substation	1993 - 1997	297528
B	68m SE	Electricity Substation	1952	301548
B	68m SE	Electricity Substation	1981 - 1984	317674
4	91m E	Electricity Substation	1976 - 1993	305424
J	158m NE	Electricity Substation	1993	266425
J	161m NE	Electricity Substation	1980 - 1986	310621
J	163m NE	Electricity Substation	1980	266416
K	189m SW	Electricity Substation	1983 - 1984	310720
K	189m SW	Electricity Substation	1993 - 1997	284128
R	299m W	Electricity Substation	1978	269181
Q	309m E	Power Station	1967 - 1969	292991

ID	Location	Land use	Dates present	Group ID
R	324m W	Electricity Substation	1983 - 1986	322293
R	330m W	Electricity Substation	1994 - 1996	312369
Q	334m E	Electricity Works	1909	266122
Q	376m E	Gasholder Station	1969 - 1976	297062
Q	377m E	Electricity Transformers	1969	312523
Q	377m E	Electricity Transformers	1967	316813
Q	378m E	Electricity Transformers	1976	314167
Q	379m E	Electricity Substation	1980	273136
Y	383m W	Electricity Substation	1986 - 1994	301209
Y	386m W	Electricity Transformer	1972	276609
Z	386m S	Electricity Substation	1953 - 1955	302107
Z	390m S	Electricity Substation	1983 - 1997	314573
Q	393m E	Gas Works	1897 - 1909	304565
Q	396m E	Gasometers	1897 - 1909	304464
Q	397m E	Gas Works	1866	277354
Q	399m E	Gasometers	1866	320910
U	402m NE	Electricity Substation	1976	302945
U	402m NE	Electricity Substation	1980	283974
Q	402m E	Gasholder Station	1967	309201
Q	418m E	Gasholder Station	1980	285243
I	434m S	Electricity Substation	1983	281498
I	436m S	Electricity Substation	1993 - 1997	309430
I	436m S	Electricity Substation	1952	282623
I	436m S	Electricity Substation	1981 - 1984	303726
AD	451m E	Electricity Transformer	1976	276771
AD	451m E	Electricity Substation	1953 - 1969	284961
AD	453m E	Electricity Substation	1980	283326
AA	461m NW	Electricity Substation	1978 - 1996	312538

ID	Location	Land use	Dates present	Group ID
Q	461m E	Gasholder	1969	295562
Q	461m E	Gasholder	1976	315663
Q	461m E	Gasholder	1967	317473
Q	462m E	Gasholder	1980	300695
AF	471m W	Electricity Substation	1994 - 1996	312163
AF	471m W	Electricity Substation	1978 - 1986	284578
AG	484m SE	Electricity Substation	1983 - 1992	277470
AG	484m SE	Electricity Substation	1994	309272
AG	484m SE	Electricity Substation	1993	320284
AG	486m SE	Electricity Substation	1976	299899
AG	486m SE	Electricity Substation	1953	303676
AG	487m SE	Electricity Substation	1955	311997

This data is sourced from Ordnance Survey® / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey® mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey® / Groundsure.

1.5 Historical garages

Records within 500m	40

Garages digitised from historical Ordnance Survey® mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
A	7m W	Garage	1953	81476
B	11m S	Garage	1953 - 1958	93255
A	12m W	Garage	1958	81478
3	64m SW	Garage	1964 - 1980	91385
F	75m W	Garages	1953	82270
F	78m W	Garages	1958	82273
C	100m SW	Garage	1955	92484
C	100m SW	Garage	1970	91980
C	100m SW	Garage	1953	94619
C	104m SW	Garage	1981	85289
C	104m SW	Garage	1952	94600
G	116m NW	Garage	1953	81473
F	121m W	Garage	1953	81475
F	124m W	Garages	1958	82272
G	129m NW	Garages	1958	82271
F	164m W	Garage	1953	81474
G	164m NW	Garage	1953	81472
F	164m W	Garages	1953	82269
F	180m W	Garages	1958	82274
F	181m W	Garage	1958	81477
G	183m NW	Garage	1958 - 1976	93390
H	199m S	Garage	1953	82770
H	199m S	Garage	1970	85421
7	201m E	Garage	1953 - 1958	93102
H	205m S	Garage	1955	84828
H	212m S	Garage	1952	85125
H	212m S	Garage	1981	95731
8	233m NW	Boat Repair Works	1953	82338

ID	Location	Land use	Dates present	Group ID
O	280m NW	Boat Repair Shed	1958	82103
10	292m NW	Garage	1953 - 1955	93823
T	320m SW	Garage	1994	87960
T	320m SW	Garage	1972	84392
T	338m SW	Garage	1986	93785
T	346m SW	Garage	1953 - 1955	85908
12	402m W	Garage	1953 - 1955	86869
AA	418m NW	Garages	1953 - 1955	84263
14	423m SW	Garage	1953 - 1955	91446
AC	438m SE	Garage	1993 - 1994	88131
AC	438m SE	Garage	1992	87623
AE	484m W	Garages	1953 - 1955	91031

This data is sourced from Ordnance Survey® / Groundsure.

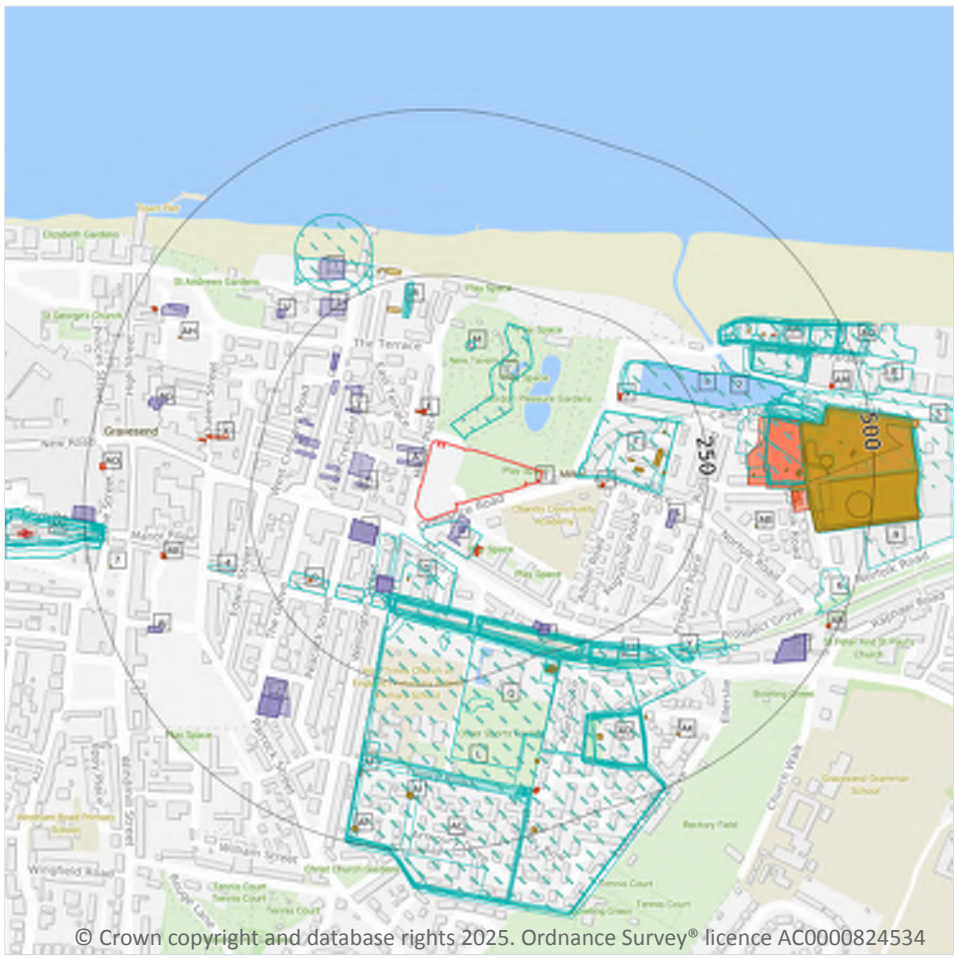
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey® / Groundsure / other sources.

2 Past land use - un-grouped



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	263

Potentially contaminative land use features digitised from historical Ordnance Survey® mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 31 >**

ID	Location	Land Use	Date	Group ID
B	10m S	Telephone Exchange	1981	2216808
B	10m S	Telephone Exchange	1973	2216808
C	14m N	Unspecified Ground Workings	1981	2280321

ID	Location	Land Use	Date	Group ID
C	14m N	Unspecified Ground Workings	1973	2280321
C	14m N	Unspecified Ground Workings	1955	2280321
C	14m N	Unspecified Ground Workings	1966	2280321
D	36m SW	Brewery	1895	2207547
D	49m SW	Brewery	1888	2159119
F	52m E	Sawmill	1932	2313752
F	54m E	Sawmill	1938	2272176
F	54m E	Sawmill	1951	2272176
D	61m S	Brewery	1895	2308979
D	81m S	Brewery	1895	2242940
D	81m S	Brewery	1895	2242940
D	85m S	Unspecified Tank	1895	2190539
F	99m E	Unspecified Works	1981	2182397
D	119m S	Cuttings	1916	2260015
D	120m S	Cuttings	1938	2262171
D	121m S	Cuttings	1895	2228506
K	121m S	Cuttings	1938	2224869
D	125m S	Cuttings	1981	2320835
D	125m S	Cuttings	1973	2320835
D	125m S	Cuttings	1955	2320835
D	125m S	Cuttings	1966	2320835
K	126m S	Cuttings	1932	2325595
K	126m S	Cuttings	1895	2324749
K	126m S	Cuttings	1895	2318211
D	127m S	Cuttings	1938	2324035
D	127m S	Cuttings	1951	2213863
D	127m S	Cuttings	1907	2318233
D	127m S	Cuttings	1895	2288828

ID	Location	Land Use	Date	Group ID
D	128m SW	Cuttings	1981	2229417
D	128m SW	Cuttings	1973	2229417
D	128m SW	Cuttings	1955	2229417
D	128m SW	Cuttings	1966	2229417
D	130m S	Cuttings	1888	2258801
D	132m S	Cuttings	1923	2269165
D	139m SW	Cuttings	1981	2252369
D	139m SW	Cuttings	1973	2252369
D	139m SW	Cuttings	1955	2252369
D	139m SW	Cuttings	1966	2252369
L	142m S	Barracks	1938	2236102
M	144m N	Unspecified Tank	1981	2221051
M	144m N	Unspecified Tank	1973	2221051
M	144m N	Unspecified Tank	1955	2221051
M	144m N	Unspecified Tank	1966	2221051
L	146m S	Barracks	1932	2241091
L	147m S	Barracks	1973	2220626
L	147m S	Barracks	1955	2220626
L	147m S	Barracks	1966	2220626
L	153m S	Barracks	1923	2304167
K	162m S	Cuttings	1916	2287361
K	162m S	Cuttings	1895	2285218
K	163m S	Cuttings	1938	2263723
K	167m S	Cuttings	1888	2297814
K	168m S	Cuttings	1981	2290139
K	168m S	Cuttings	1973	2290139
K	168m S	Cuttings	1955	2290139
K	168m S	Cuttings	1966	2290139

ID	Location	Land Use	Date	Group ID
O	169m SW	Cuttings	1973	2274381
O	169m SW	Cuttings	1955	2209840
O	169m SW	Cuttings	1966	2209840
K	172m S	Cuttings	1938	2264612
K	172m S	Cuttings	1951	2322215
K	172m S	Cuttings	1907	2207053
K	172m S	Cuttings	1895	2302079
D	172m S	Unspecified Heap	1955	2186818
P	172m NE	Canal Basin	1888	2264311
K	175m S	Cuttings	1923	2209380
P	175m NE	Canal Basin	1895	2273341
P	175m NE	Canal Basin	1895	2273341
2	182m NE	Disused Canal	1966	2267240
Q	187m S	Barracks	1938	2247959
Q	187m S	Barracks	1951	2221536
R	190m N	Coastguard Station	1895	2309116
R	190m N	Coastguard Station	1895	2309116
R	192m N	Coastguard Station	1888	2282740
R	197m N	Coastguard Station	1895	2293020
T	248m NW	Unspecified Wharf	1932	2275753
T	248m NW	Unspecified Wharf	1932	2275753
U	254m S	Cuttings	1938	2251473
U	258m S	Cuttings	1907	2317066
U	258m S	Cuttings	1938	2320322
U	258m S	Cuttings	1951	2328474
U	259m S	Cuttings	1888	2318880
U	262m S	Cuttings	1923	2257818
L	263m S	Barracks	1938	2241091

ID	Location	Land Use	Date	Group ID
T	264m NW	Unspecified Wharf	1938	2275753
T	264m NW	Unspecified Wharf	1951	2275753
U	264m S	Cuttings	1895	2318880
K	265m S	Unspecified Tanks	1938	2230731
K	265m S	Unspecified Tanks	1938	2230731
K	266m S	Tanks	1916	2174782
K	269m S	Unspecified Tanks	1932	2246333
K	270m S	Unspecified Tanks	1938	2230731
K	270m S	Unspecified Tanks	1951	2203269
K	270m S	Unspecified Tanks	1907	2307840
K	273m S	Unspecified Tanks	1923	2213703
Q	277m S	Unspecified Quarry	1865	2185178
4	289m W	Railway Building	1955	2195547
W	293m E	Unspecified Commercial/Industrial	1932	2271924
W	309m E	Power Station	1973	2158347
Y	315m SE	Cuttings	1916	2240164
Y	318m SE	Cuttings	1938	2223782
Y	320m SE	Cuttings	1938	2285375
Y	320m SE	Cuttings	1951	2307685
Y	320m SE	Cuttings	1907	2238388
AA	328m NE	Iron Works	1895	2297867
AA	330m NE	Iron Works	1888	2302459
AA	331m NE	Iron Works	1895	2246647
AA	331m NE	Iron Works	1895	2246647
Y	332m SE	Cuttings	1923	2298997
AA	332m NE	Iron Works	1938	2242599
AA	333m NE	Iron Works	1938	2242599
AA	336m NE	Iron Works	1895	2246647

ID	Location	Land Use	Date	Group ID
W	336m E	Unspecified Commercial/Industrial	1938	2236071
W	336m E	Unspecified Commercial/Industrial	1938	2258803
AA	336m NE	Soap Works	1888	2236361
W	337m E	Electricity Works	1923	2167384
W	337m E	Electric Works	1916	2173888
W	338m E	Coal Store	1865	2169837
Y	338m SE	Railway Station	1916	2228773
AA	339m NE	Unspecified Works	1973	2238917
AA	339m NE	Unspecified Works	1966	2238917
AA	342m NE	Unspecified Works	1981	2205693
Y	342m SE	Railway Station	1938	2234427
W	342m E	Railway Sidings	1966	2277719
AC	344m S	Barracks	1895	2270209
AC	344m S	Barracks	1895	2270209
Y	345m SE	Railway Building	1923	2195819
AA	349m NE	Soap Works	1895	2204618
W	350m E	Railway Sidings	1938	2272315
W	350m E	Railway Sidings	1951	2272315
W	350m E	Railway Sidings	1907	2203015
W	351m E	Railway Sidings	1938	2247197
AA	351m NE	Unspecified Works	1981	2300827
AA	351m NE	Unspecified Works	1973	2300827
AA	351m NE	Unspecified Works	1966	2300827
W	351m E	Railway Sidings	1938	2249030
AA	352m NE	Soap Works	1895	2292018
AA	352m NE	Soap Works	1895	2292018
AA	352m NE	Soap Works	1865	2236361
AA	352m NE	Iron Works	1932	2207092

ID	Location	Land Use	Date	Group ID
AA	353m NE	Soap Works	1895	2210618
AD	353m S	Military Hospital	1916	2231418
AA	354m NE	Unspecified Works	1955	2256872
AD	356m S	Hospital	1938	2203609
AD	356m S	Hospital	1895	2271885
W	357m E	Railway Sidings	1932	2230146
W	357m E	Railway Sidings	1923	2230146
AD	357m S	Hospital	1932	2278948
AD	358m S	Military Hospital	1938	2306242
AD	361m S	Hospital	1938	2270172
AD	361m S	Hospital	1951	2295730
AD	361m S	Hospital	1907	2301818
AD	361m S	Hospital	1895	2224287
AD	362m S	Station Hospital	1895	2288447
AD	362m S	Station Hospital	1895	2288447
AD	364m S	Station Hospital	1888	2225999
AC	364m S	Barracks	1895	2270209
AD	364m S	Hospital	1923	2270172
AA	367m NE	Iron Works	1938	2299870
AA	367m NE	Iron Works	1951	2299870
L	374m S	Barracks	1916	2330734
W	375m E	Unspecified Works	1955	2182565
W	375m E	Unspecified Commercial/Industrial	1966	2269849
AC	382m S	Barracks	1907	2293463
AC	385m S	Barracks	1865	2324418
AC	388m S	Barracks	1888	2285959
AA	390m NE	Iron Works	1907	2309167
W	392m E	Gas Works	1907	2202788

ID	Location	Land Use	Date	Group ID
W	392m E	Gas Works	1895	2329608
W	393m E	Gas Works	1888	2329608
W	394m E	Unspecified Tanks	1895	2315504
W	395m E	Unspecified Tank	1938	2253277
W	395m E	Unspecified Tanks	1951	2278855
W	395m E	Unspecified Tanks	1907	2268695
W	395m E	Unspecified Commercial/Industrial	1938	2255705
W	395m E	Unspecified Commercial/Industrial	1951	2255705
W	395m E	Unspecified Tank	1932	2284824
W	395m E	Gasometers	1888	2268834
AA	396m NE	Iron Works	1916	2271252
W	396m E	Gas Works	1895	2290023
W	396m E	Gas Works	1865	2331282
W	397m E	Unspecified Tank	1938	2209879
W	397m E	Gas Works	1895	2325548
W	397m E	Gas Works	1895	2325548
W	397m E	Gas Works	1923	2300346
W	397m E	Gas Works	1916	2300346
W	397m E	Unspecified Tank	1938	2302565
W	398m E	Gasometer	1895	2161481
W	398m E	Gasometers	1865	2296554
W	398m E	Unspecified Tank	1907	2318194
W	399m E	Gasometer	1895	2161434
W	399m E	Gasometers	1865	2314119
W	399m E	Gasometers	1916	2294773
W	399m E	Unspecified Tanks	1938	2290752
W	399m E	Gasometers	1923	2223255
W	399m E	Gasometers	1895	2267533

ID	Location	Land Use	Date	Group ID
W	399m E	Gasometers	1895	2267533
5	400m E	Timber Yard	1981	2250413
AA	401m NE	Iron Works	1923	2288467
W	408m E	Refuse Heap	1888	2204999
W	408m E	Refuse Heap	1895	2297916
W	413m E	Refuse Heap	1895	2302522
W	413m E	Refuse Heap	1895	2308927
W	413m E	Refuse Heap	1895	2308927
W	415m E	Unspecified Ground Workings	1938	2293314
W	415m E	Unspecified Ground Workings	1951	2293314
W	415m E	Unspecified Heap	1932	2323441
W	415m E	Unspecified Heap	1932	2323441
W	416m E	Unspecified Tank	1895	2327566
W	417m E	Unspecified Tank	1938	2314183
W	418m E	Gasometers	1865	2291742
W	419m E	Gasometer	1895	2261241
W	420m E	Gas Holder Station	1973	2321505
W	422m E	Gasometer	1923	2250546
L	427m S	Engine House	1895	2252447
W	428m E	Unspecified Tank	1932	2210279
W	428m E	Unspecified Tank	1938	2324945
W	428m E	Unspecified Tank	1951	2312798
L	429m S	Engine House	1895	2222187
L	429m S	Engine House	1895	2222187
W	431m E	Gas Holder Station	1981	2321505
L	432m S	Engine House	1888	2252447
L	434m S	Engine House	1907	2222187
L	434m S	Engine House	1895	2230335

ID	Location	Land Use	Date	Group ID
L	435m S	Engine House	1865	2329121
AA	439m NE	Iron Works	1888	2236996
AA	440m NE	Iron Works	1895	2323432
AA	440m NE	Iron Works	1895	2329264
AA	443m NE	Iron Works	1895	2243828
6	447m E	Unspecified Heap	1865	2186820
W	462m E	Unspecified Tanks	1981	2302956
W	462m E	Unspecified Tanks	1973	2302956
AN	469m W	Railway Sidings	1990	2229259
AN	469m W	Railway Sidings	1977	2330977
AN	469m W	Railway Sidings	1971	2287784
AN	469m W	Railway Building	1895	2221688
AN	469m W	Railway Building	1895	2221688
AN	471m W	Railway Sidings	1895	2290267
AN	471m W	Railway Building	1895	2266007
AN	471m W	Railway Sidings	1955	2285580
AN	471m W	Railway Sidings	1966	2277668
AN	472m W	Railway Sidings	1932	2205457
AN	473m W	Railway Sidings	1923	2246454
AN	474m W	Railway Sidings	1938	2205457
AN	474m W	Railway Sidings	1951	2205457
AN	474m W	Railway Sidings	1907	2240976
AN	474m W	Railway Sidings	1895	2269307
AN	474m W	Railway Sidings	1938	2252863
AN	475m W	Railway Sidings	1938	2234535
AN	478m W	Railway Sidings	1865	2249490
AN	479m W	Railway Building	1865	2257381
AN	480m W	Railway Building	1932	2300375

ID	Location	Land Use	Date	Group ID
AQ	481m NE	Unspecified Wharves	1938	2213164
AQ	481m NE	Unspecified Wharves	1938	2213164
AN	481m W	Railway Building	1938	2308199
AN	481m W	Railway Building	1865	2195691
AN	483m W	Railway Building	1938	2234082
8	489m E	Unspecified Works	1966	2182558
9	491m E	Unspecified Works	1981	2182564
AN	497m W	Railway Sidings	1916	2211374

This data is sourced from Ordnance Survey® / Groundsure.

2.2 Historical tanks

Records within 500m	**107**

Tank features digitised from historical Ordnance Survey® mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 31 >**

ID	Location	Land Use	Date	Group ID
D	92m S	Unspecified Tank	1983	432033
D	92m S	Unspecified Tank	1984	422597
D	93m S	Unspecified Tank	1993	426056
D	93m S	Unspecified Tank	1997	417941
D	93m S	Unspecified Tank	1996	407766
F	131m E	Unspecified Tank	1976	414472
F	131m E	Unspecified Tank	1980	414472
F	140m E	Tanks	1967	420808
F	140m E	Tanks	1976	420808
F	140m E	Tanks	1980	420808
F	140m E	Tanks	1969	420808
F	170m E	Tanks	1967	423313

ID	Location	Land Use	Date	Group ID
F	170m E	Tanks	1976	423313
F	170m E	Tanks	1980	402810
F	170m E	Tanks	1969	423313
F	182m E	Unspecified Tank	1969	405323
F	182m E	Unspecified Tank	1967	405323
F	182m E	Unspecified Tank	1976	405323
F	182m E	Unspecified Tank	1980	405323
F	192m E	Unspecified Tank	1976	403725
F	192m E	Unspecified Tank	1980	401359
R	201m N	Unspecified Tank	1953	394713
R	256m N	Unspecified Tank	1958	394719
R	267m N	Tanks	1932	380001
R	268m N	Tanks	1932	380002
K	269m S	Tanks	1955	412440
K	272m S	Tanks	1953	430472
K	274m S	Tanks	1932	413021
K	274m S	Tanks	1909	413021
K	275m S	Tanks	1953	399470
W	317m E	Unspecified Tank	1958	411166
W	317m E	Unspecified Tank	1969	411166
W	317m E	Unspecified Tank	1953	411166
W	317m E	Unspecified Tank	1967	411166
AB	331m E	Unspecified Tank	1969	402883
AB	331m E	Unspecified Tank	1967	411492
AB	331m E	Unspecified Tank	1976	418910
AB	332m E	Unspecified Tank	1980	403472
W	365m E	Tanks	1932	380005
W	367m E	Unspecified Tank	1953	428135

ID	Location	Land Use	Date	Group ID
W	367m E	Unspecified Tank	1967	418951
W	367m E	Unspecified Tank	1958	405192
W	367m E	Unspecified Tank	1969	414561
W	368m E	Tanks	1932	380004
AA	376m NE	Unspecified Tank	1976	425453
W	376m E	Gasholder Station	1969	403037
AA	377m NE	Unspecified Tank	1980	425453
W	379m E	Unspecified Tank	1866	394720
W	382m E	Tanks	1932	380006
W	383m E	Tanks	1932	380003
W	386m E	Tanks	1932	380007
W	387m E	Unspecified Tank	1969	401417
AD	387m SE	Unspecified Tank	1953	408083
W	387m E	Unspecified Tank	1967	401417
AD	387m SE	Unspecified Tank	1955	408083
AD	389m S	Unspecified Tank	1953	422124
AD	389m S	Unspecified Tank	1970	431970
AD	389m S	Unspecified Tank	1955	411083
AA	390m NE	Unspecified Tank	1980	394726
W	393m E	Gas Works	1897	417340
W	393m E	Gas Works	1909	417340
L	394m S	Unspecified Tank	1984	408302
L	395m S	Unspecified Tank	1983	421714
W	395m E	Unspecified Tank	1932	394722
W	396m E	Gasometers	1897	400683
W	396m E	Gasometers	1909	400683
L	397m S	Unspecified Tank	1993	408302
W	397m E	Tanks	1932	380008

ID	Location	Land Use	Date	Group ID
W	397m E	Gas Works	1866	420096
W	399m E	Gasometers	1866	404618
W	402m E	Gasholder Station	1967	429463
AH	411m NW	Unspecified Tank	1955	406635
AH	411m NW	Unspecified Tank	1953	410767
AI	412m S	Unspecified Tank	1953	413249
AI	412m S	Unspecified Tank	1983	413249
AI	412m S	Unspecified Tank	1970	413249
AI	412m S	Unspecified Tank	1952	413249
AI	412m S	Unspecified Tank	1981	413249
AI	412m S	Unspecified Tank	1984	413249
AI	413m S	Unspecified Tank	1955	413249
W	417m E	Gasholder Station	1976	412600
W	418m E	Gasholder Station	1980	398546
W	420m E	Unspecified Tank	1953	425779
W	420m E	Unspecified Tank	1958	425779
W	428m E	Unspecified Tank	1932	394715
AK	434m SE	Unspecified Tank	1897	407795
AK	434m SE	Unspecified Tank	1932	423338
W	451m E	Unspecified Tank	1866	394721
W	461m E	Gasholder	1969	418322
W	461m E	Gasholder	1967	399110
W	461m E	Gasholder	1976	413418
W	462m E	Gasholder	1980	405109
W	466m E	Tanks	1897	419122
W	466m E	Tanks	1909	419122
W	466m E	Tanks	1932	419122
7	467m W	Unspecified Tank	1994	388813

ID	Location	Land Use	Date	Group ID
W	469m E	Tanks	1953	406024
W	470m E	Tanks	1958	406024
AP	474m S	Unspecified Tank	1953	399475
AP	474m S	Unspecified Tank	1970	399475
AP	475m S	Unspecified Tank	1955	399475
AP	475m S	Unspecified Tank	1932	399475
W	486m E	Unspecified Tank	1958	422786
W	486m E	Unspecified Tank	1953	422786
L	489m S	Unspecified Tank	1955	431684
L	489m S	Unspecified Tank	1953	431684
L	489m S	Unspecified Tank	1970	431684

This data is sourced from Ordnance Survey® / Groundsure.

2.3 Historical energy features

Records within 500m	**101**

Energy features digitised from historical Ordnance Survey® mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 31 >**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Electricity Substation**	**1958**	**269182**
E	43m N	Electricity Substation	1993	281968
E	45m N	Electricity Substation	1980	312792
E	45m N	Electricity Substation	1986	292121
E	48m NW	Electricity Substation	1976	305236
B	61m SE	Electricity Substation	1993	302165
B	63m SE	Electricity Substation	1976	305948
B	63m SE	Electricity Substation	1980	307950
B	63m SE	Electricity Substation	1986	317694

ID	Location	Land Use	Date	Group ID
B	63m SE	Electricity Substation	1983	281945
B	64m SE	Electricity Substation	1993	297528
B	64m SE	Electricity Substation	1997	297528
B	64m SE	Electricity Substation	1996	297528
B	68m SE	Electricity Substation	1952	301548
B	68m SE	Electricity Substation	1981	317674
B	68m SE	Electricity Substation	1984	317674
I	91m E	Electricity Substation	1993	305424
I	91m E	Electricity Substation	1976	305424
I	91m E	Electricity Substation	1980	305424
I	91m E	Electricity Substation	1986	305424
N	158m NE	Electricity Substation	1993	266425
N	161m NE	Electricity Substation	1980	310621
N	161m NE	Electricity Substation	1986	310621
N	163m NE	Electricity Substation	1980	266416
O	189m SW	Electricity Substation	1984	310720
O	189m SW	Electricity Substation	1983	310720
O	189m SW	Electricity Substation	1993	284128
O	189m SW	Electricity Substation	1997	284128
O	189m SW	Electricity Substation	1996	284128
X	299m W	Electricity Substation	1978	269181
W	309m E	Power Station	1969	292991
W	309m E	Power Station	1967	292991
X	324m W	Electricity Substation	1983	322293
X	324m W	Electricity Substation	1986	322293
X	324m W	Electricity Substation	1983	322293
X	330m W	Electricity Substation	1994	312369
X	330m W	Electricity Substation	1996	312369

ID	Location	Land Use	Date	Group ID
W	334m E	Electricity Works	1909	266122
W	376m E	Gasholder Station	1969	297062
W	377m E	Electricity Transformers	1969	312523
W	377m E	Electricity Transformers	1967	316813
W	378m E	Electricity Transformers	1976	314167
W	379m E	Electricity Substation	1980	273136
AE	383m W	Electricity Substation	1986	301209
AE	386m W	Electricity Substation	1994	301209
AE	386m W	Electricity Transformer	1972	276609
AF	386m S	Electricity Substation	1953	302107
AF	386m S	Electricity Substation	1955	302107
AF	390m S	Electricity Substation	1983	314573
AF	390m S	Electricity Substation	1984	314573
AF	392m S	Electricity Substation	1993	314573
AF	392m S	Electricity Substation	1997	314573
AF	392m S	Electricity Substation	1996	314573
W	393m E	Gas Works	1897	304565
W	393m E	Gas Works	1909	304565
W	396m E	Gasometers	1897	304464
W	396m E	Gasometers	1909	304464
W	397m E	Gas Works	1866	277354
W	399m E	Gasometers	1866	320910
AA	402m NE	Electricity Substation	1976	302945
AA	402m NE	Electricity Substation	1980	283974
W	402m E	Gasholder Station	1967	309201
W	417m E	Gasholder Station	1976	297062
W	418m E	Gasholder Station	1980	285243
L	434m S	Electricity Substation	1983	281498

ID	Location	Land Use	Date	Group ID
L	436m S	Electricity Substation	1993	309430
L	436m S	Electricity Substation	1997	309430
L	436m S	Electricity Substation	1996	309430
L	436m S	Electricity Substation	1952	282623
L	436m S	Electricity Substation	1981	303726
L	436m S	Electricity Substation	1984	303726
AM	451m E	Electricity Substation	1953	284961
AM	451m E	Electricity Substation	1967	284961
AM	451m E	Electricity Transformer	1976	276771
AM	452m E	Electricity Substation	1958	284961
AM	452m E	Electricity Substation	1969	284961
AM	453m E	Electricity Substation	1980	283326
AH	461m NW	Electricity Substation	1994	312538
AH	461m NW	Electricity Substation	1996	312538
AH	461m NW	Electricity Substation	1978	312538
W	461m E	Gasholder	1969	295562
W	461m E	Gasholder	1967	317473
W	461m E	Gasholder	1976	315663
W	462m E	Gasholder	1980	300695
AH	462m NW	Electricity Substation	1983	312538
AH	462m NW	Electricity Substation	1986	312538
AH	462m NW	Electricity Substation	1983	312538
AO	471m W	Electricity Substation	1994	312163
AO	471m W	Electricity Substation	1996	312163
AO	471m W	Electricity Substation	1978	284578
AO	472m W	Electricity Substation	1983	284578
AO	472m W	Electricity Substation	1986	284578
AO	472m W	Electricity Substation	1983	284578

ID	Location	Land Use	Date	Group ID
AR	484m SE	Electricity Substation	1983	277470
AR	484m SE	Electricity Substation	1983	277470
AR	484m SE	Electricity Substation	1992	277470
AR	484m SE	Electricity Substation	1994	309272
AR	484m SE	Electricity Substation	1993	320284
AR	486m SE	Electricity Substation	1976	299899
AR	486m SE	Electricity Substation	1953	303676
AR	487m SE	Electricity Substation	1955	311997

This data is sourced from Ordnance Survey® / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

Petrol stations digitised from historical Ordnance Survey® mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey® / Groundsure.

2.5 Historical garages

Records within 500m	**55**

Garages digitised from historical Ordnance Survey® mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 31 >**

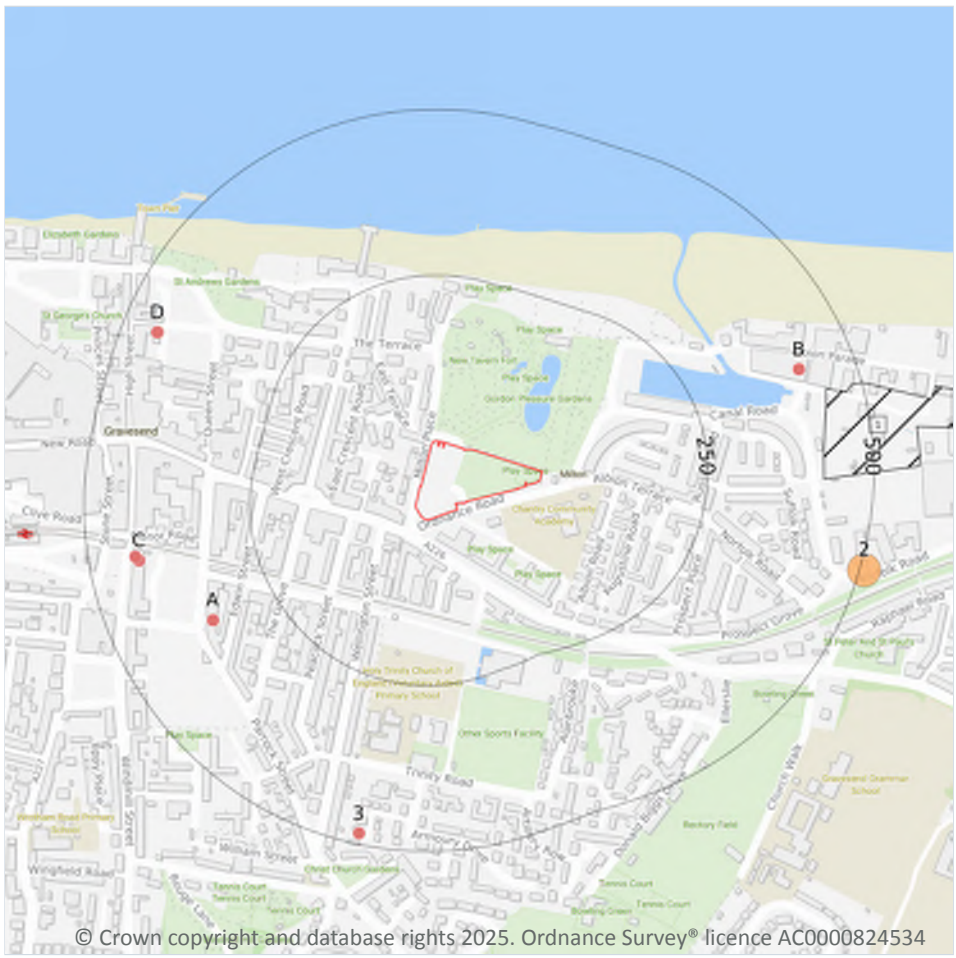
ID	Location	Land Use	Date	Group ID
A	7m W	Garage	1953	81476
B	11m S	Garage	1958	93255
A	12m W	Garage	1958	81478
B	27m S	Garage	1953	93255
G	64m SW	Garage	1980	91385

ID	Location	Land Use	Date	Group ID
G	64m SW	Garage	1969	91385
G	65m SW	Garage	1976	91385
G	65m SW	Garage	1964	91385
H	75m W	Garages	1953	82270
H	78m W	Garages	1958	82273
D	100m SW	Garage	1955	92484
D	100m SW	Garage	1953	94619
D	100m SW	Garage	1970	91980
D	104m SW	Garage	1952	94600
D	104m SW	Garage	1981	85289
J	116m NW	Garage	1953	81473
H	121m W	Garage	1953	81475
H	124m W	Garages	1958	82272
J	129m NW	Garages	1958	82271
H	164m W	Garage	1953	81474
J	164m NW	Garage	1953	81472
H	164m W	Garages	1953	82269
H	180m W	Garages	1958	82274
H	181m W	Garage	1958	81477
J	183m NW	Garage	1976	93390
J	183m NW	Garage	1964	93390
J	184m NW	Garage	1958	93390
J	184m NW	Garage	1969	93390
K	199m S	Garage	1953	82770
K	199m S	Garage	1970	85421
S	201m E	Garage	1958	93102
S	202m E	Garage	1953	93102
K	205m S	Garage	1955	84828

ID	Location	Land Use	Date	Group ID
K	212m S	Garage	1952	85125
K	212m S	Garage	1981	95731
3	233m NW	Boat Repair Works	1953	82338
T	280m NW	Boat Repair Shed	1958	82103
V	292m NW	Garage	1953	93823
V	292m NW	Garage	1955	93823
Z	320m SW	Garage	1994	87960
Z	320m SW	Garage	1972	84392
Z	338m SW	Garage	1986	93785
Z	346m SW	Garage	1955	85908
Z	347m SW	Garage	1953	85908
AG	402m W	Garage	1955	86869
AG	402m W	Garage	1953	86869
AH	418m NW	Garages	1953	84263
AH	419m NW	Garages	1955	84263
AJ	423m SW	Garage	1955	91446
AJ	424m SW	Garage	1953	91446
AL	438m SE	Garage	1993	88131
AL	438m SE	Garage	1994	88131
AL	438m SE	Garage	1992	87623
AN	484m W	Garages	1955	91031
AN	485m W	Garages	1953	91031

This data is sourced from Ordnance Survey® / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Historical waste sites

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey®/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	1

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on **page 52 >**

ID	Location	Details		
1	425m E	Site Address: Gas Works - Canal, Gravesend, Kent Licence Holder Address: -	Waste Licence: Yes Site Reference: GR12 Waste Type: Inert, Commercial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 01/01/1976 Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	1

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 52 >**

ID	Location	Address	Further Details	Date
2	482m E	Site Address: Nuralite Industrial Estate, Canal Road, Higham, Rochester, Kent, ME3 7JA	Type of Site: Land Reclamation Planning application reference: 20160637 Description: Scheme comprises land reclamation scheme to cover landfill site, including SUDS. Data source: Historic Planning Application Data Type: Point	-

This data is sourced from Ordnance Survey®/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	24

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

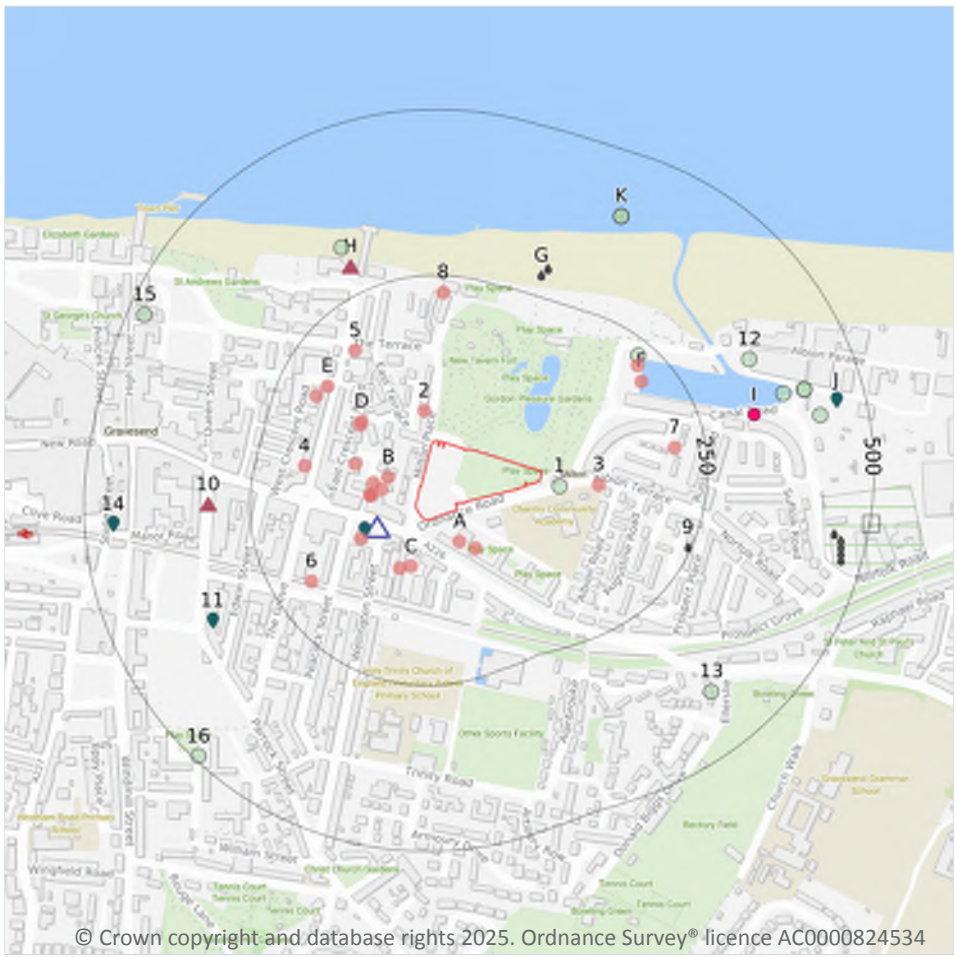
Features are displayed on the Waste and landfill map on **page 52 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	351m SW	Existing Car Park, Parrock Street, Gravesend, Da12 1er	WEX001127	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	351m SW	Existing Car Park, Parrock Street, Gravesend, Da12 1er	WEX001127	Using waste exemption	Not on a farm	Use of waste in construction
A	351m SW	Existing Car Park, Parrock Street, Gravesend, Da12 1er	WEX001127	Using waste exemption	Not on a farm	Spreading of plant matter to confer benefit
A	351m SW	Existing Car Park, Parrock Street, Gravesend, Da12 1er	WEX001127	Using waste exemption	Not on a farm	Use of waste for a specified purpose
A	351m SW	Existing Car Park, Parrock Street, Gravesend, Da12 1er	WEX001127	Treating waste exemption	Not on a farm	Treatment of waste aerosol cans
A	351m SW	Existing Car Park, Parrock Street, Gravesend, Da12 1er	WEX001127	Using waste exemption	Not on a farm	Use of mulch
B	415m E	Feabrex House, Albion Parade, Gravesend, Da12 2rn	WEX164539	Treating waste exemption	Not on a farm	Mechanical treatment of end-of-life tyres
B	415m E	Feabrex House, Albion Parade, Gravesend, Da12 2rn	WEX164539	Using waste exemption	Not on a farm	Use of baled end-of-life tyres in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
B	415m E	Albion Parade, Gravesend, Da12 2rn	WEX289569	Treating waste exemption	Not on a farm	Mechanical treatment of end-of-life tyres
B	415m E	Feabrex House, Albion Parade, Gravesend, Da12 2rn	WEX312075	Using waste exemption	Not on a farm	Use of baled end-of-life tyres in construction
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX144855	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX144855	Storing waste exemption	Not on a farm	Storage of waste in secure containers
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX144855	Treating waste exemption	Not on a farm	Sorting mixed waste
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX283084	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX283084	Storing waste exemption	Not on a farm	Storage of waste in secure containers
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX283084	Treating waste exemption	Not on a farm	Sorting mixed waste
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX360506	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX411917	Treating waste exemption	Not on a farm	Sorting mixed waste
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX411917	Storing waste exemption	Not on a farm	Storage of waste in secure containers
C	426m W	19, Windmill Street, Gravesend, Da12 1as	WEX411917	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	430m W	19 Windmill Street Gravesend Kent Da12 1as	EPR/EF0307CK/A001	Treating waste exemption	Non-agricultural waste only	Sorting and de-naturing of controlled drugs for disposal
D	446m W	-	WEX411614	Using waste exemption	Not on a farm	Use of waste in construction
D	447m W	1, New Swan Yard, Gravesend, Da12 2en	WEX465921	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
3	485m S	-	WEX352658	Disposing of waste exemption	Not on a farm	Burning waste in the open

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

- Recent industrial land uses
- Current or recent petrol stations
- Control of Major Accident Hazards
- Hazardous substance storage/usage
- Licensed pollutant release (Part A(2)/B)
- Radioactive Substance Authorisations
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	25

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 56 >**

ID	Location	Company	Address	Activity	Category
A	47m S	Telephone Exchange	Kent, DA12	Telecommunications Features	Infrastructure and Facilities
2	48m N	Electricity Sub Station	Kent, DA12	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
B	50m W	Rymech Ventilation & Plumbing Services	Unit 7 Bentley Street Industrial Estate, Bentley Street, Gravesend, Kent, DA12 2DH	Construction Completion Services	Construction Services
B	56m W	Bentley Street Industrial Estate	Kent, DA12	Business Parks and Industrial Estates	Industrial Features
A	64m SE	Electricity Sub Station	Kent, DA12	Electrical Features	Infrastructure and Facilities
B	70m W	D R P Castings	Unit 3 Bentley Street Industrial Estate, Bentley Street, Gravesend, Kent, DA12 2DH	Moulds, Dies and Castings	Industrial Products
B	70m W	Gravesend Transmissio n Services Ltd	Unit 1 Bentley Street Industrial Estate, Bentley Street, Gravesend, Kent, DA12 2DH	Vehicle Components	Industrial Products
B	70m W	Transmissio ns Services	Unit 1 Bentley Street Industrial Estate, Bentley Street, Gravesend, Kent, DA12 2DH	Vehicle Components	Industrial Products
B	70m W	Gravesend Transmissio n Services	Unit 1 Bentley Street Industrial Estate, Bentley Street, Gravesend, Kent, DA12 2DH	Vehicle Repair, Testing and Servicing	Repair and Servicing
C	74m S	Milton Road Business Park	Kent, DA12	Business Parks and Industrial Estates	Industrial Features
C	82m SW	Versatile Fixings Ltd	Unit 2 First Floor, Milton Road Business Park, 128, Milton Road, Gravesend, Kent, DA12 2PG	General Construction Supplies	Industrial Products
3	87m E	Electricity Sub Station	Kent, DA12	Electrical Features	Infrastructure and Facilities
B	95m SW	Esso	139, Milton Road, Gravesend, Kent, DA12 2RQ	Petrol and Fuel Stations	Road and Rail
B	104m W	Golden Motors Services	Unit 2 8, Bentley Street, Gravesend, Kent, DA12 2DH	Vehicle Repair, Testing and Servicing	Repair and Servicing
D	111m W	Gravesend Engineering Co Ltd	East Crescent Road, Gravesend, Kent, DA12 2AR	Industrial Engineers	Engineering Services
D	111m W	Works	Kent, DA12	Unspecified Works Or Factories	Industrial Features
4	176m W	Torela	41, Harmer Street, Gravesend, Kent, DA12 2AP	Clothing, Components and Accessories	Consumer Products

ID	Location	Company	Address	Activity	Category
E	180m NW	Chalmers	1, Harmer Street, Gravesend, Kent, DA12 2AP	Vehicle Parts and Accessories	Motoring
5	181m NW	A C C Worldwide	Acc House 43, The Terrace, Gravesend, Kent, DA12 2BJ	Distribution and Haulage	Transport, Storage and Delivery
E	189m NW	Euroguard Technical Services Ltd	Suite B Harmer House 5, Harmer Street, Gravesend, Kent, DA12 2AP	Pest and Vermin Control	Contract Services
6	192m SW	Electricity Sub Station	Kent, DA12	Electrical Features	Infrastructure and Facilities
7	202m E	Electricity Sub Station	Kent, DA12	Electrical Features	Infrastructure and Facilities
F	202m NE	Mooring Posts	Kent, DA12	Moorings and Unloading Facilities	Water
F	216m NE	Slipway	Kent, DA12	Moorings and Unloading Facilities	Water
8	224m N	Heritage Quay	Kent, DA12	Moorings and Unloading Facilities	Water

This data is sourced from Ordnance Survey®.

4.2 National Geographic Database (NGD) - Current or recent tanks

Records within 250m	**0**

Current or recent tanks identified from the Ordnance Survey® NGD.

This data is sourced from Ordnance Survey®.

4.3 Current or recent petrol stations

Records within 500m	**1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 56 >**

ID	Location	Company	Address	LPG	Status
B	67m SW	ESSO	139, Milton Road, Wellington Street, Gravesend, Kent, DA12 2RG	No	Open

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.5 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.6 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.7 Control of Major Accident Hazards (COMAH)

Records within 500m	1

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

Features are displayed on the Current industrial land use map on **page 56 >**

ID	Location	Company	Address	Operational status	Tier
L	425m E	British Gas	British Gas, Gravesend Holder Station, Suffolk Road, Gravesend	Historical NIHHS Site	-

This data is sourced from the Health and Safety Executive.

4.8 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.9 Hazardous substance storage/usage

Records within 500m	3

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

Features are displayed on the Current industrial land use map on **page 56 >**

ID	Location	Details	
H	293m NW	Application reference number: No Details Application status: Historical Consent Application date: No Details Address: Port of London River Authority, River Thames Anchorages (Chapmans Anchorages), Gtr London, England	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details
H	293m NW	Application reference number: No Details Application status: Historical Consent Application date: No Details Address: Port of London River Authority, Tilbury, Essex, England	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details
10	314m W	Application reference number: 20020581 Application status: Approved Application date: 08/07/2002 Address: Transco PLC, Gravesend Holder Station, Suffolk Road, Gravesend, Kent, England, DA12 2SW	Details: Storage and distribution of natural gas. Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.10 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed industrial activities (Part A(1))

Records within 500m	0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.12 Licensed pollutant release (Part A(2)/B)

Records within 500m	4

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 56 >**

ID	Location	Address	Details	
B	85m W	Clocktower Service Station, 139 Milton Road, Gravesend, Kent, DA12 2RQ	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
11	351m SW	Dappers Dry Cleaners, 161 Parrock Street, Gravesend, Kent, DA12 1ER	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
J	456m E	Volumetric Concrete Ltd, Albion Parade, Gravesend, Lent, DA12 2RN	Process: Use of Bulk Cement Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
14	458m W	Railway Dry Cleaners, 6 Railway Place, Gravesend, Kent, DA12 1AP	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.13 Radioactive Substance Authorisations

Records within 500m	2

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

Features are displayed on the Current industrial land use map on **page 56 >**

ID	Location	Address	Details	
I	330m E	Magnox Electric Ltd, Canal Road, Gravesend, Kent, DA12 2RS	Operator: Magnox Electric Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AD7591 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled

ID	Location	Address	Details	
I	330m E	Magnox Electric Ltd, Canal Road, Gravesend, Kent, DA12 2RS	Operator: Magnox Electric Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AD7605 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Licensed Discharges to controlled waters

Records within 500m **13**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 56 >**

ID	Location	Address	Details	
9	245m SE	SCIENTIFIC SERVICES DEPARTMENT, SUF, SCIENTIFIC SERVICES DEPARTMENT, SUFFOLK ROAD, GRAVESEND, KENT	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: CTMR.0160 Permit Version: 1 Receiving Water: THAMES	Status: REVOKED - UNSPECIFIED Issue date: 31/07/1974 Effective Date: 01/11/1978 Revocation Date: 27/09/1993
G	282m N	GORDON PROMENADE STORM OVERFLOW, GORDON PROMENADE STORM OVERFLOW, GRAVESEND KENT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: D00075 Permit Version: 1 Receiving Water: SALINE ESTUARY	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 01/04/1991 Effective Date: 01/04/1991 Revocation Date: -
G	282m N	GORDON PROMENADE CSO GRAVESEND, GORDON PROMENADE, GRAVESEND, KENT	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CSSB.0114 Permit Version: 1 Receiving Water: RIVER THAMES(TIDAL)	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 14/10/1987 Effective Date: 14/10/1987 Revocation Date: -
G	294m N	MILTON ROAD GRAVESEND CSO, MILTON ROAD, GRAVESEND, KENT, DA12 2RQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CASM.0007 Permit Version: 3 Receiving Water: TIDAL RIVER THAMES	Status: VARIED UNDER EPR 2010 Issue date: 16/03/2017 Effective Date: 16/03/2017 Revocation Date: 30/03/2017

ID	Location	Address	Details	
G	294m N	MILTON ROAD GRAVESEND CSO, MILTON ROAD, GRAVESEND, KENT, DA12 2RQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CASM.0007 Permit Version: 2 Receiving Water: TIDAL RIVER THAMES	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 21/04/1999 Effective Date: 07/01/2000 Revocation Date: 15/03/2017
G	294m N	MILTON ROAD GRAVESEND CSO, MILTON ROAD, GRAVESEND, KENT, DA12 2RQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CASM.0007 Permit Version: 1 Receiving Water: TIDAL RIVER THAMES	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 21/04/1999 Effective Date: 06/09/1999 Revocation Date: 06/01/2000
G	294m N	MILTON ROAD GRAVESEND CSO, MILTON ROAD, GRAVESEND, KENT, DA12 2RQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CASM.0007 Permit Version: 4 Receiving Water: TIDAL RIVER THAMES	Status: VARIED UNDER EPR 2010 Issue date: 16/03/2017 Effective Date: 31/03/2017 Revocation Date: -
K	403m N	ALBION WHARF, GRAVESEND, KENT, ALBION WHARF, GRAVESEND, KENT	Effluent Type: MISCELLANEOUS DISCHARGES - UNSPECIFIED Permit Number: CPLR.0069 Permit Version: 1 Receiving Water: THAMES	Status: REVOKED - UNSPECIFIED Issue date: 14/09/1972 Effective Date: 14/09/1972 Revocation Date: 23/12/1985
L	449m E	CANAL ROAD IND PARK, CANAL ROAD IND PARK, GRAVESEND, KENT	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: P03509 Permit Version: 1 Receiving Water: INTO LAND	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 19/03/1991 Effective Date: 19/03/1991 Revocation Date: 01/07/1991
L	461m E	CANAL ROAD IND PARK, CANAL ROAD IND PARK, GRAVESEND, KENT	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: P03509 Permit Version: 1 Receiving Water: INTO LAND	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 19/03/1991 Effective Date: 19/03/1991 Revocation Date: 01/07/1991
L	464m E	CANAL ROAD IND PARK, CANAL ROAD IND PARK, GRAVESEND, KENT	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: P03509 Permit Version: 1 Receiving Water: INTO LAND	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 19/03/1991 Effective Date: 19/03/1991 Revocation Date: 01/07/1991

ID	Location	Address	Details	
L	466m E	CANAL ROAD IND PARK, CANAL ROAD IND PARK, GRAVESEND, KENT	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: P03509 Permit Version: 1 Receiving Water: INTO LAND	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 19/03/1991 Effective Date: 19/03/1991 Revocation Date: 01/07/1991
L	469m E	CANAL ROAD IND PARK, CANAL ROAD IND PARK, GRAVESEND, KENT	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: P03509 Permit Version: 1 Receiving Water: INTO LAND	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 19/03/1991 Effective Date: 19/03/1991 Revocation Date: 01/07/1991

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to surface waters (Red List)

Records within 500m	0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution Incidents (EA/NRW)

Records within 500m	13

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 56 >**

ID	Location	Details	
1	31m E	Incident Date: 19/06/2002 Incident Identification: 85967 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
F	227m NE	Incident Date: 22/07/2003 Incident Identification: 175727 Pollutant: Specific Waste Materials Pollutant Description: Other Specific Waste Material	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
H	325m NW	Incident Date: 29/09/2001 Incident Identification: 33683 Pollutant: Sewage Materials Pollutant Description: Storm Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
12	355m NE	Incident Date: 19/09/2002 Incident Identification: 108953 Pollutant: Oils and Fuel Pollutant Description: Cutting Oils	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
J	382m E	Incident Date: 13/07/2001 Incident Identification: 16232 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
K	403m N	Incident Date: 06/06/2002 Incident Identification: 83286 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

ID	Location	Details	
K	403m N	Incident Date: 25/11/2002 Incident Identification: 122916 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
13	410m SE	Incident Date: 02/11/2003 Incident Identification: 199459 Pollutant: Oils and Fuel Pollutant Description: Petrol	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
J	413m E	Incident Date: 29/03/2003 Incident Identification: 147063 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
J	413m E	Incident Date: 29/03/2003 Incident Identification: 147063 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
J	428m E	Incident Date: 06/04/2001 Incident Identification: 15205 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
15	475m NW	Incident Date: 25/06/2001 Incident Identification: 11446 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
16	494m SW	Incident Date: 26/02/2003 Incident Identification: 139622 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.20 Pollution inventory substances

Records within 500m	**0**

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

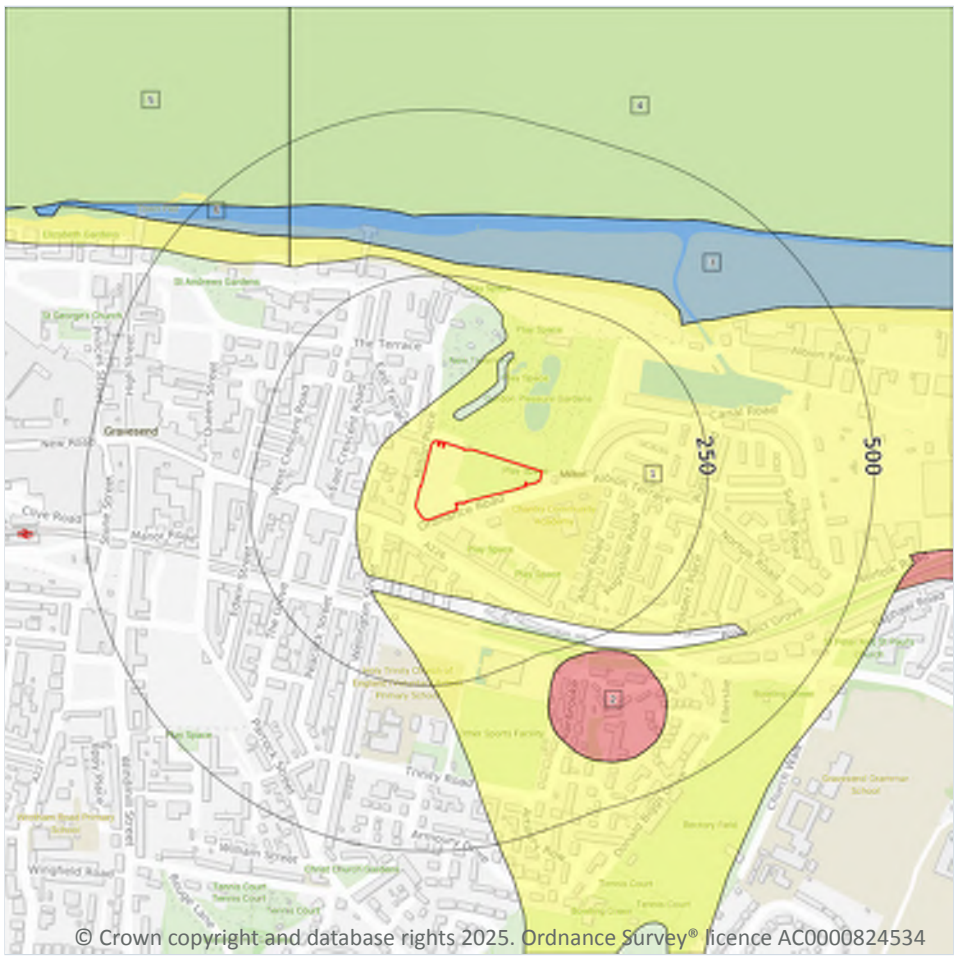
4.22 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	6

Aquifer status of groundwater held within superficial geology.

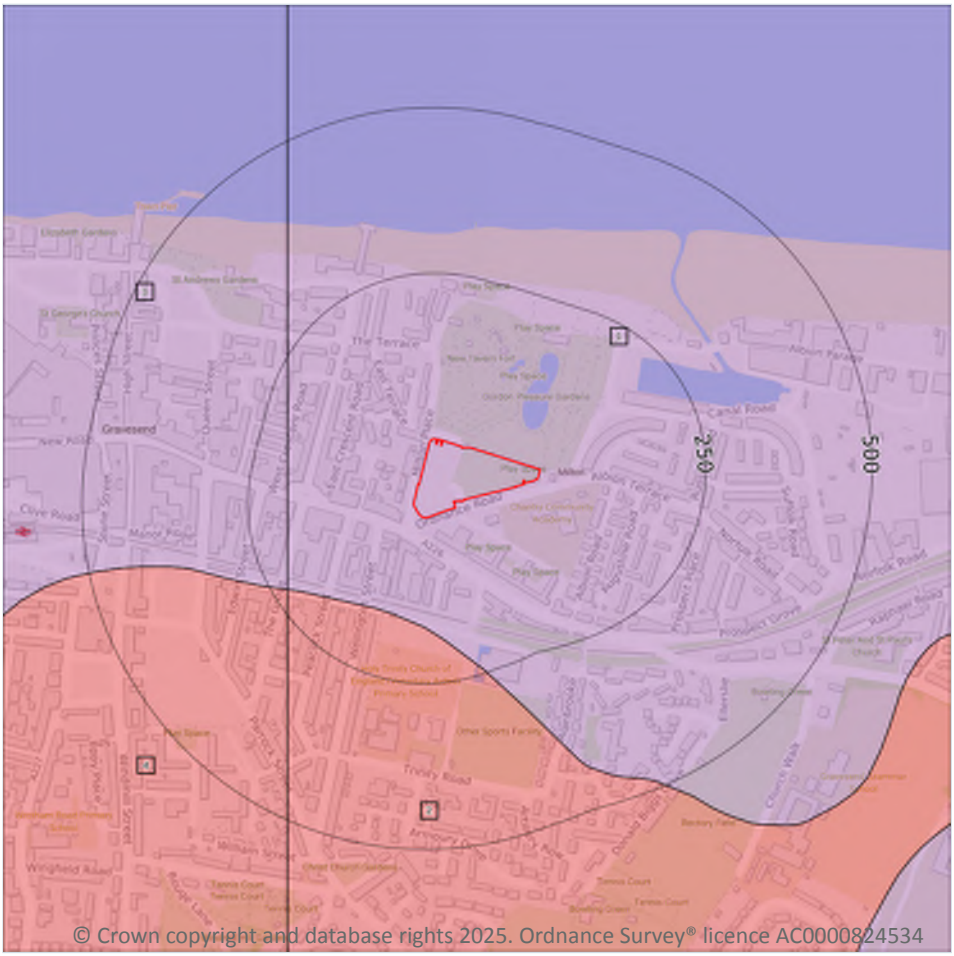
Features are displayed on the Hydrogeology map on **page 68 >**

ID	Location	Designation	Description
1	**On site**	**Secondary Undifferentiated**	**Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type**
2	267m S	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

ID	Location	Designation	Description
3	269m N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	341m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
5	342m NW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
6	378m NW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	4

Aquifer status of groundwater held within bedrock geology.

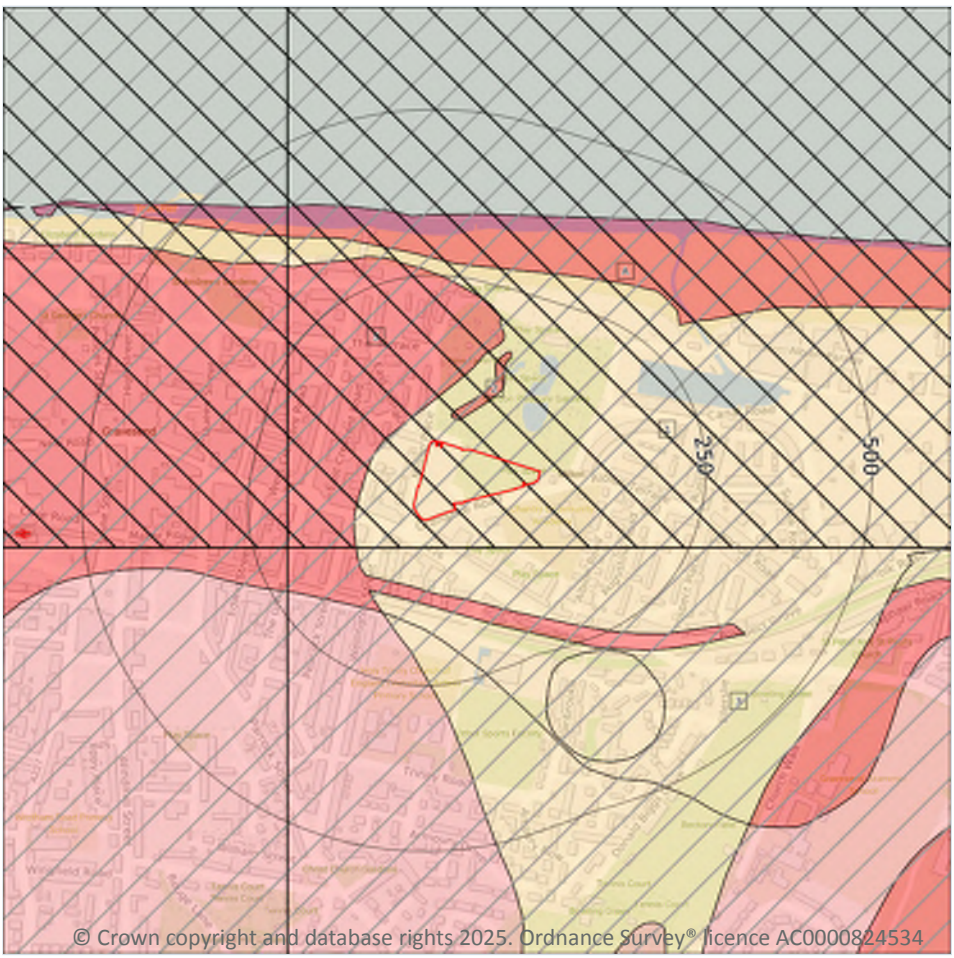
Features are displayed on the Bedrock aquifer map on **page 70 >**

ID	Location	Designation	Description
1	**On site**	**Principal**	**Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers**
2	153m S	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

ID	Location	Designation	Description
3	191m W	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
4	229m SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability
- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability
- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information
- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	4

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 72 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: <300mm/year**	**Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures**
2	39m N	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
3	42m S	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: Medium	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
5	47m NW	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: >10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**1**

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
A	**Very significant soluble rocks are likely to be present with a high possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, especially in adverse conditions such as concentrated surface or subsurface water flow.**	**0.0%**

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

Records on site	**1**

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

ID	Summary	Additional information
A	**Potentially increased vulnerability of the bedrock aquifer due to limited cover by superficial deposits**	**Removal of, or limited cover of, superficial deposits within the River Thames**

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



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5.6 Groundwater abstractions

Records within 2000m	9

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 75 >**

ID	Location	Details	
-	786m S	Status: Active Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLES, ADITS AND CATCHPITS AT WINDMILL HILL PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 565060 Northing: 173270	Annual Volume (m^3): 17700000 Max Daily Volume (m^3): 88000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
-	786m S	Status: Historical Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLES, ADITS AND CATCHPITS AT WINDMILL HILL PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 565060 Northing: 173270	Annual Volume (m^3): 17700000 Max Daily Volume (m^3): 92000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
-	1294m E	Status: Active Licence No: 9/40/01/0508/G Details: General Washing/Process Washing Direct Source: Southern Region Groundwater Point: POINT 1, BOREHOLE AT GRAVESEND SEWAGE WORKS IN KENT. Data Type: Point Name: Southern Water Services Ltd Easting: 566670 Northing: 174000	Annual Volume (m^3): 55000 Max Daily Volume (m^3): 340 Original Application No: 169/0449 Original Start Date: 23/03/1989 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -
-	1545m E	Status: Active Licence No: 9/40/01/0498/G Details: Mineral Washing Direct Source: Southern Region Groundwater Point: POINT A, S DRIFT, UNDERGROUND GRAVEL STRATA (THAMES BALLAST) Data Type: Point Name: Clubb Sand and Gravel Easting: 566925 Northing: 174152	Annual Volume (m^3): 83689 Max Daily Volume (m^3): 336 Original Application No: NPS/WR/039725 Original Start Date: 03/05/1976 Expiry Date: - Issue No: 102 Version Start Date: 13/08/2024 Version End Date: -

ID	Location	Details	
-	1545m E	Status: Historical Licence No: 9/40/01/0498/G Details: Mineral Washing Direct Source: Southern Region Groundwater Point: POINT A, S DRIFT, UNDERGROUND GRAVEL STRATA (THAMES BALLAST) Data Type: Point Name: J Clubb Ltd Easting: 566925 Northing: 174152	Annual Volume (m^3): 83969 Max Daily Volume (m^3): 336 Original Application No: NPS/WR/022001 Original Start Date: 03/05/1976 Expiry Date: - Issue No: 101 Version Start Date: 26/05/2016 Version End Date: -
-	1549m E	Status: Active Licence No: 9/40/01/0498/G Details: Mineral Washing Direct Source: Southern Region Groundwater Point: BOREHOLE B, UNDERGROUND STRATA RIVER TERRACE GRAVELS Data Type: Point Name: Clubb Sand and Gravel Easting: 566929 Northing: 174152	Annual Volume (m^3): 83689 Max Daily Volume (m^3): 336 Original Application No: NPS/WR/039725 Original Start Date: 03/05/1976 Expiry Date: - Issue No: 102 Version Start Date: 13/08/2024 Version End Date: -
-	1549m E	Status: Historical Licence No: 9/40/01/0498/G Details: Mineral Washing Direct Source: Southern Region Groundwater Point: BOREHOLE B, UNDERGROUND STRATA RIVER TERRACE GRAVELS Data Type: Point Name: J Clubb Ltd Easting: 566929 Northing: 174152	Annual Volume (m^3): 83969 Max Daily Volume (m^3): 336 Original Application No: NPS/WR/022001 Original Start Date: 03/05/1976 Expiry Date: - Issue No: 101 Version Start Date: 26/05/2016 Version End Date: -
-	1579m E	Status: Historical Licence No: 9/40/01/0498/G Details: Mineral Washing Direct Source: Southern Region Groundwater Point: POINT A, S DRIFT, UNDERGROUND GRAVEL STRATA (THAMES BALLAST) Data Type: Point Name: J Clubb Ltd Easting: 566960 Northing: 174120	Annual Volume (m^3): 33186 Max Daily Volume (m^3): 91 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -

ID	Location	Details	
-	1924m N	Status: Historical Licence No: 8/37/56/*G/0084 Details: Make-Up or Top Up Water Direct Source: GROUND WATER SOURCE OF SUPPLY Point: BOREHOLE AT TILBURY POWER STN Data Type: Point Name: RWE INNOGY PLC Easting: 565760 Northing: 176010	Annual Volume (m^3): 4000 Max Daily Volume (m^3): 18 Original Application No: - Original Start Date: 16/09/1996 Expiry Date: - Issue No: 103 Version Start Date: 01/10/2003 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	**0**

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	**2**

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 75 >**

ID	Location	Details	
-	786m S	Status: Active Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLES, ADITS AND CATCHPITS AT WINDMILL HILL PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 565060 Northing: 173270	Annual Volume (m^3): 17700000 Max Daily Volume (m^3): 88000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -

ID	Location	Details	
-	786m S	Status: Historical Licence No: 9/40/01/0511/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: BOREHOLES, ADITS AND CATCHPITS AT WINDMILL HILL PS Data Type: Poly4 Name: Southern Water Services Ltd Easting: 565060 Northing: 173270	Annual Volume (m^3): 17700000 Max Daily Volume (m^3): 92000 Original Application No: 169/0639D Original Start Date: 24/03/1986 Expiry Date: - Issue No: 100 Version Start Date: 27/11/2006 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	**1**

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

Features are displayed on the Abstractions and Source Protection Zones map on **page 75 >**

ID	Location	Type	Description
1	442m S	1	Inner catchment

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m	**0**

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



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Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey®.

6.2 Surface water features

Records within 250m	5

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 80 >**

This data is sourced from the Ordnance Survey®.

6.3 WFD Surface water body catchments

Records on site	1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 80 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**Coastal Catchment**	**Not part of a river WB catchment**	**130**	**Lower Medway**	**Medway**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	0

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1

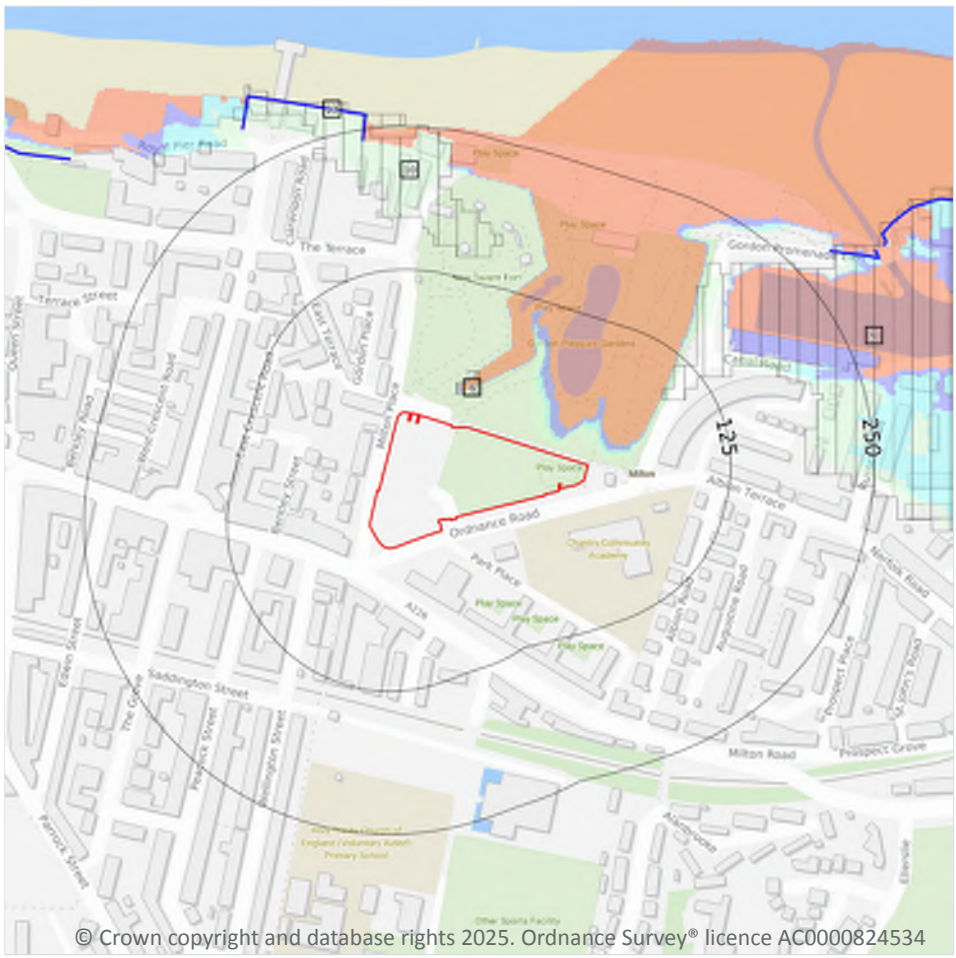
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 80 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**North Kent Medway Chalk**	**GB40601G500300** ↗	**Poor**	**Poor**	**Poor**	**2019**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding



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Site Outline

Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m	6

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on **page 83 >**

Distance	Flood risk category
On site	**N/A**
0 - 50m	High

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	**0**

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	**1**

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

Features are displayed on the River and coastal flooding map on **page 83 >**

ID	Location	Update
13	240m N	08/11/2022

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	**3**

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 83 >**

ID	Location	
6	27m N	Area benefiting from flood defences

ID	Location	
9	87m NE	Area benefiting from flood defences
10	142m N	Area benefiting from flood defences

This data is sourced from the Environment Agency and Natural Resources Wales.

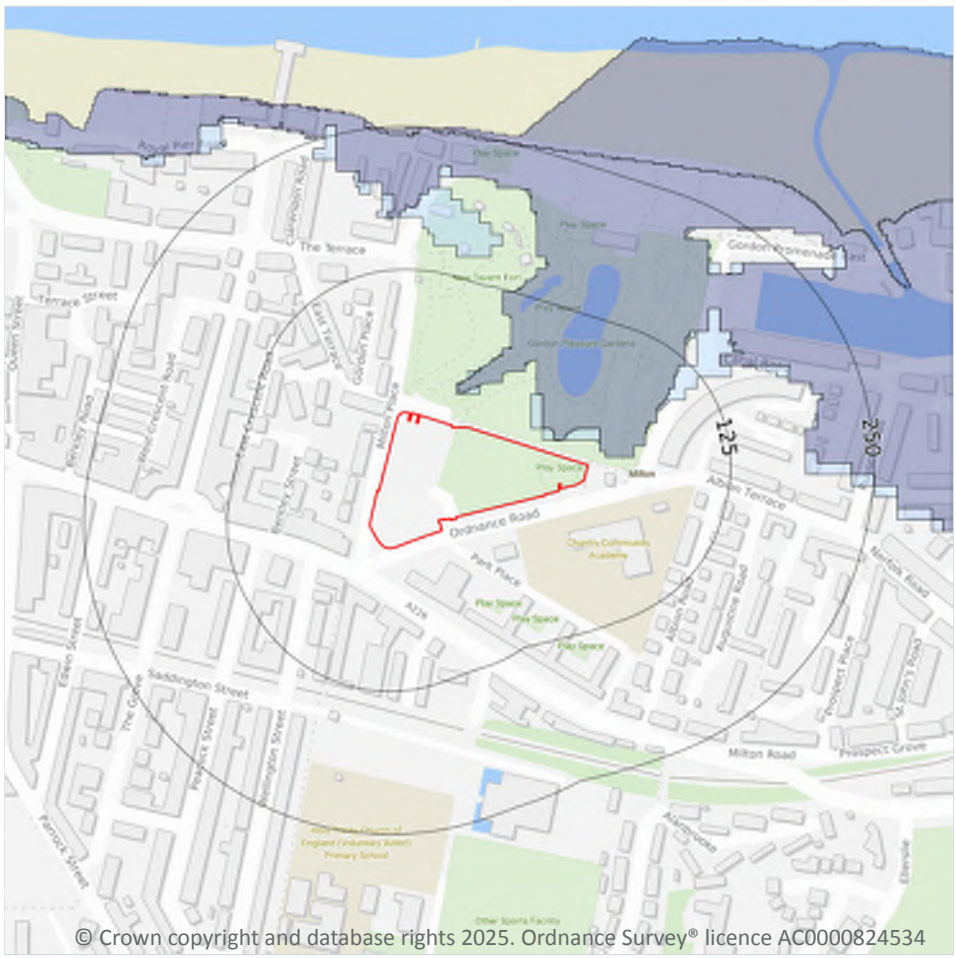
7.5 Flood Storage Areas

Records within 250m	**0**

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones



Site Outline

Search buffers in metres (m)

Flood zone 2

Flood zone 3

7.6 Flood Zone 2

Records within 50m	1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on **page 83 >**

Location	Type
9m N	Zone 2 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m	**1**

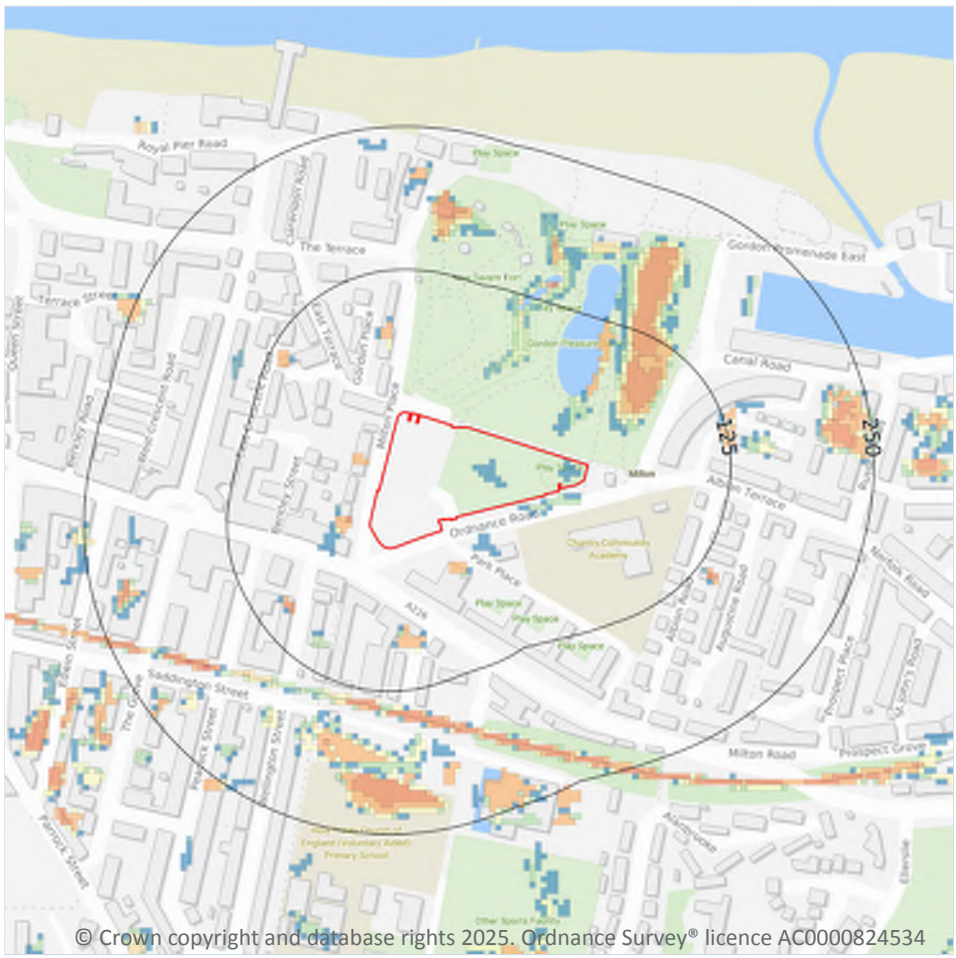
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 83 >**

Location	Type
12m N	Zone 3 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 1000 year, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 88 >**

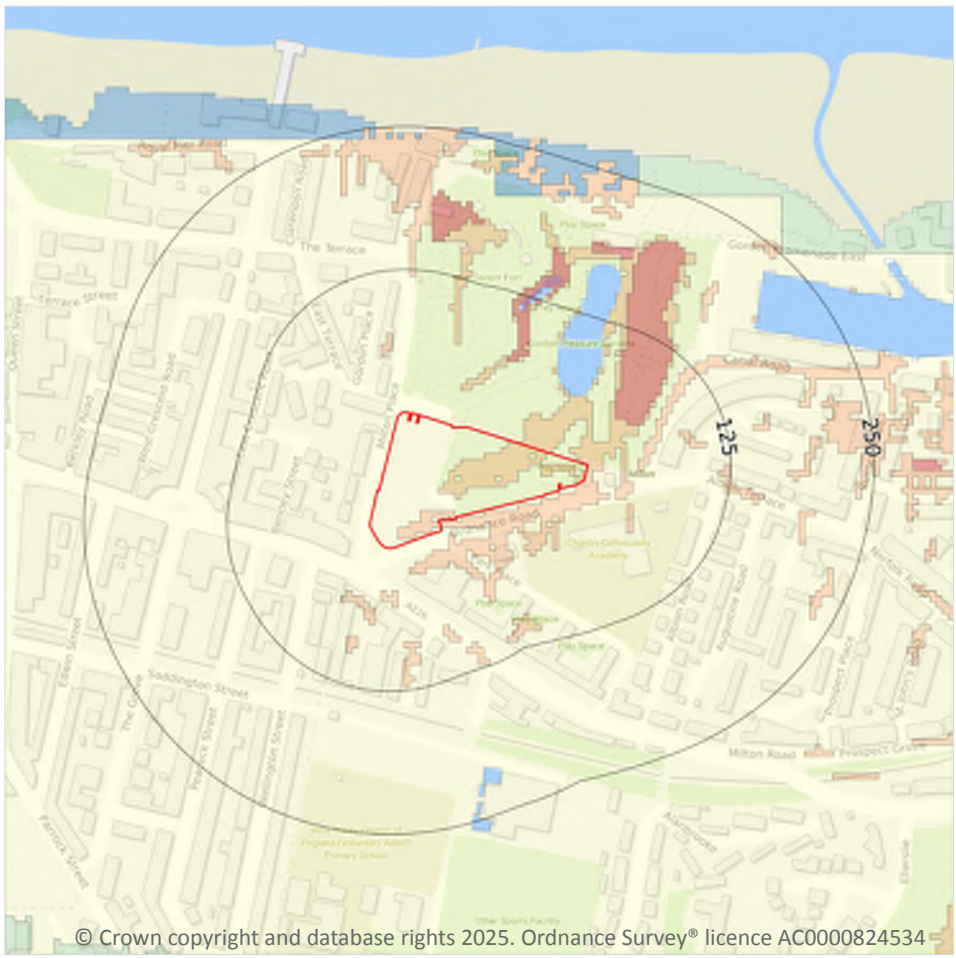
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.1m and 0.3m
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



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Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

Highest risk on site	**Moderate-High**
Highest risk within 50m	**High**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 90 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Conserved wetland sites (Ramsar sites)

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	1

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on **page 91 >**

ID	Location	Name	Data source
-	1695m E	South Thames Estuary and Marshes SSSI	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	1

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

Features are displayed on the Environmental designations map on **page 91 >**

ID	Location	Site	Details
-	1912m E	Name: Thames Estuary & Marshes Site status: Listed Data source: Natural England	Overview: A complex of brackish, floodplain grazing marsh ditches, saline lagoons and intertidal saltmarsh and mudflat. These habitats together support internationally important numbers of wintering waterfowl. The saltmarsh and grazing marsh are of international importance for their diverse assemblages of wetland plants and invertebrates. Ramsar criteria: Ramsar criterion 2 The site supports one endangered plant species and at least 14 nationally scarce plants of wetland habitats. The site also supports more than 20 British Red Data Book invertebrates.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	0

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	2

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 91 >**

ID	Location	Name	Local Authority name
1	1600m NE	London Green Belt	Thurrock
-	1927m E	London Green Belt	Gravesham

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	2

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
401m E	COASTAL STREAMS TO LOWER THAMES NVZ	Surface Water	665	Existing

Location	Name	Type	NVZ ID	Status
510m E	North Kent	Groundwater	65	Existing

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

Not recorded

Favourable

Unfavourable - Recovering

Unfavourable - No change

Unfavourable - Declining

Partially destroyed

Destroyed

10.17 SSSI Impact Risk Zones

Records on site	0

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	1

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on **page 97 >**

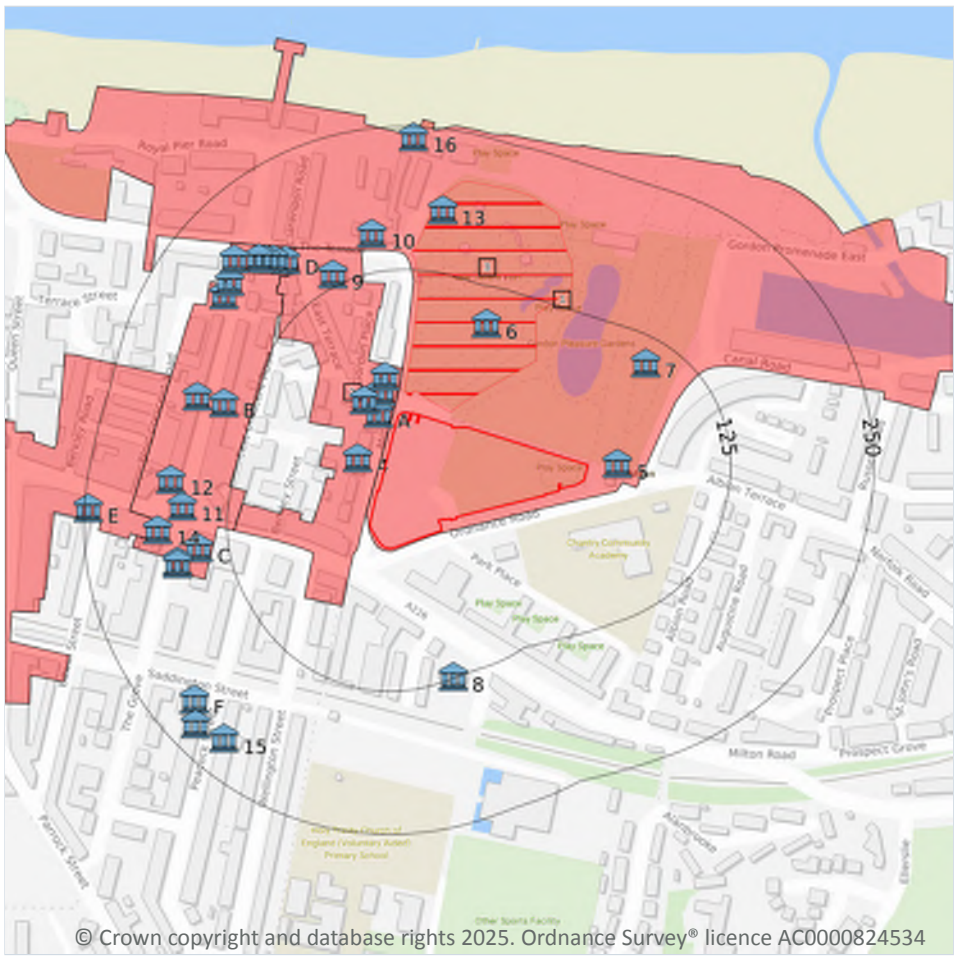
ID: -
Location: 1695m E
SSSI name: South Thames Estuary and Marshes
Unit name: Westcourt And Great Clane Marshes
Broad habitat: Neutral Grassland - Lowland
Condition: Unfavourable - No change
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Bearded tit, Panurus biarmicus	Not Recorded	01/01/1900
Aggregations of breeding birds - Garganey, Anas querquedula	Not Recorded	01/01/1900
Aggregations of breeding birds - Pintail, Anas acuta	Unfavourable - Declining	03/03/2021
Aggregations of breeding birds - Shoveler, Anas clypeata	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Avocet, Recurvirostra avosetta	Favourable	02/03/2021
Aggregations of non-breeding birds - Black-tailed godwit, Limosa limosa islandica	Favourable	03/03/2021
Aggregations of non-breeding birds - Curlew, Numenius arquata	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Dunlin, Calidris alpina alpina	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Gadwall, Mareca strepera	Favourable	03/03/2021
Aggregations of non-breeding birds - Greenshank, Tringa nebularia	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Grey plover, Pluvialis squatarola	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Hen harrier, Circus cyaneus	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Knot, Calidris canutus	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Pintail, Anas acuta	Not Recorded	01/01/1900
Aggregations of non-breeding birds - Redshank, Tringa totanus	Unfavourable - Declining	03/03/2021
Aggregations of non-breeding birds - Ringed plover, Charadrius hiaticula	Favourable	03/03/2021
Aggregations of non-breeding birds - Shelduck, Tadorna tadorna	Not Recorded	01/01/1900

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Shoveler, Anas clypeata	Favourable	03/03/2021
Aggregations of non-breeding birds - Teal, Anas crecca	Favourable	03/03/2021
Aggregations of non-breeding birds - White-fronted goose, Anser albifrons albifrons	Unfavourable - Declining	03/03/2021
Assemblages of breeding birds - Lowland damp grasslands	Not Recorded	01/01/1900
Ditches	Not Recorded	01/01/1900
Vascular plant assemblage	Not Recorded	01/01/1900

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations



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Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	32

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 100 >**

ID	Location	Name	Grade	Reference Number	Listed date
A	17m W	14, Milton Place	II	1341482	03/07/1975
4	25m W	Gordon House And Milton House	II	1089021	23/01/1952
A	26m NW	15, Milton Place	II	1089022	03/07/1975
5	26m E	Obelisk	II	1089049	03/07/1975
A	33m NW	1-8, East Terrace	II	1341496	03/07/1975
A	35m NW	16-19, Milton Place	II	1089023	03/07/1975

ID	Location	Name	Grade	Reference Number	Listed date
6	92m N	New Tavern Fort	II*	1261173	24/02/1977
7	103m NE	Statue Of General Gordon	II	1367047	03/07/1975
8	123m S	124-127, Milton Road	II	1089025	03/07/1975
9	136m NW	47, The Terrace	II	1089006	03/07/1975
B	150m W	2-48, Harmer Street	II	1089050	03/07/1975
C	151m W	144 And 145, Milton Road	II	1055826	31/07/1970
10	159m N	Hm Customs And Immigration Office	II	1088999	03/07/1975
11	165m W	Clock Tower	II	1089024	03/07/1975
D	168m NW	Terrace Tavern	II	1089003	03/07/1975
C	171m W	Two K6 Telephone Kiosks Outside Former Post Office	II	1393703	05/03/2010
C	171m W	Two K6 Telephone Kiosks Outside Former Post Office	II	1393703	05/03/2010
B	174m W	1-45, Harmer Street (See Details For Further Address Information)	II	1341497	03/07/1975
D	175m NW	Rose And Thistle Public House	II	1341513	03/07/1975
12	178m W	1-9, Berkley Crescent	II	1341492	03/07/1975
13	180m N	Milton Chantry	II*	1089047	23/01/1952
D	180m NW	43, The Terrace	II	1089002	03/07/1975
D	184m NW	42, The Terrace	II	1089001	03/07/1975
D	186m NW	1a And 2a, Harmer Street	II	1054816	03/07/1975
14	186m W	146, Milton Road	II	1341485	03/07/1975
D	188m NW	Former Stables To No 39	II	1341512	03/07/1975
D	199m NW	39, The Terrace	II	1089000	03/07/1975
F	212m SW	Zoar Chapel	II	1240086	01/03/1991
15	218m SW	20, Peacock Street	II	1089033	03/07/1975
F	225m SW	93-95, Peacock Street	II	1055730	03/07/1975
16	241m N	Gazebo In Grounds Of Hm Customs And Immigration Office	II	1341511	03/07/1975
E	247m W	The Grapes Public House	II	1089026	03/07/1975

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	4

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

Features are displayed on the Visual and cultural designations map on **page 100 >**

ID	Location	Name	District	Date of designation
1	**On site**	**Riverside, Gravesend**	**Gravesham**	**18/12/1980**
2	4m W	Milton Place, Gravesend	Gravesham	01/02/1990
B	112m W	Harmer Street, Gravesend	Gravesham	16/01/1970
E	189m W	King Street, Gravesend	Gravesham	18/12/1980

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	1

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

Features are displayed on the Visual and cultural designations map on **page 100 >**

ID	Location	Ancient monument name	Reference number
3	11m N	New Tavern Fort, Gravesend, including Milton Chantry	1013658

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

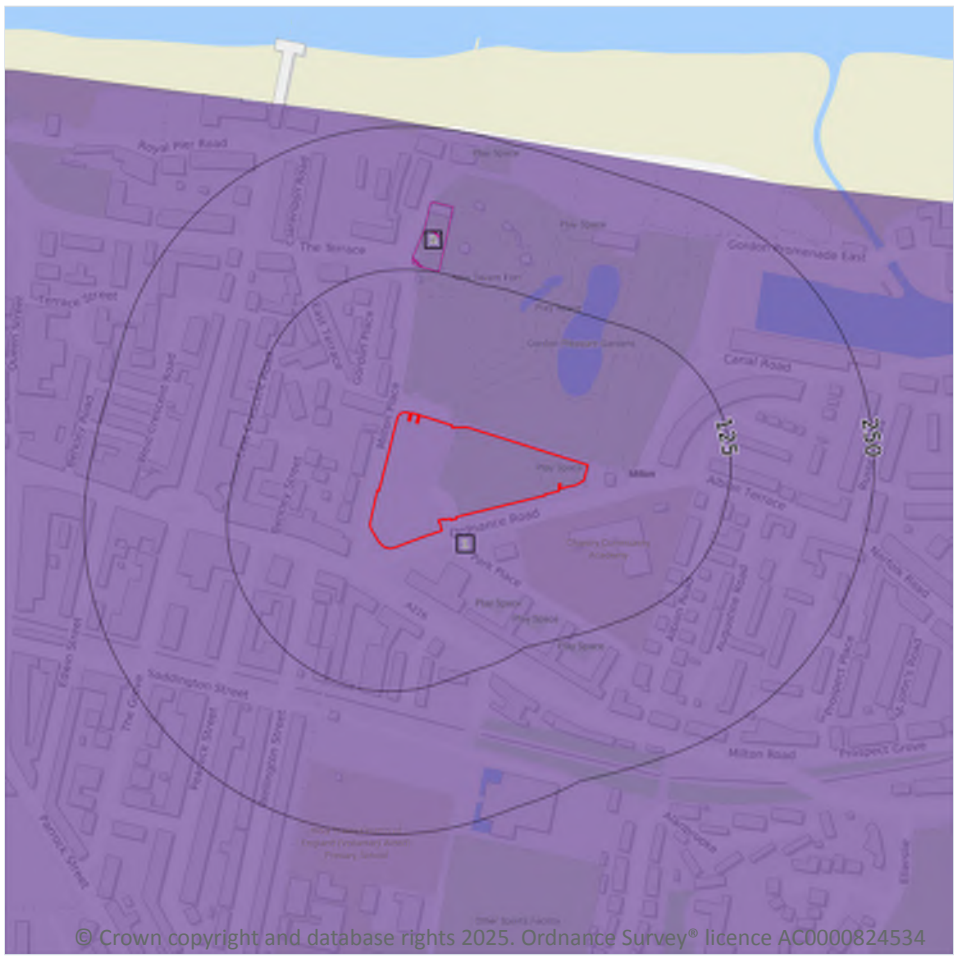
11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	1

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 105 >**

ID	Location	Classification	Description
1	**On site**	**Urban**	**Non-agricultural/no quality assigned**

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	1

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

Features are displayed on the Agricultural designations map on **page 105 >**

ID	Location	Name	Classification	Other relevant legislation
2	126m N	Milton Chantry	Section 15 Land	Archaeology

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

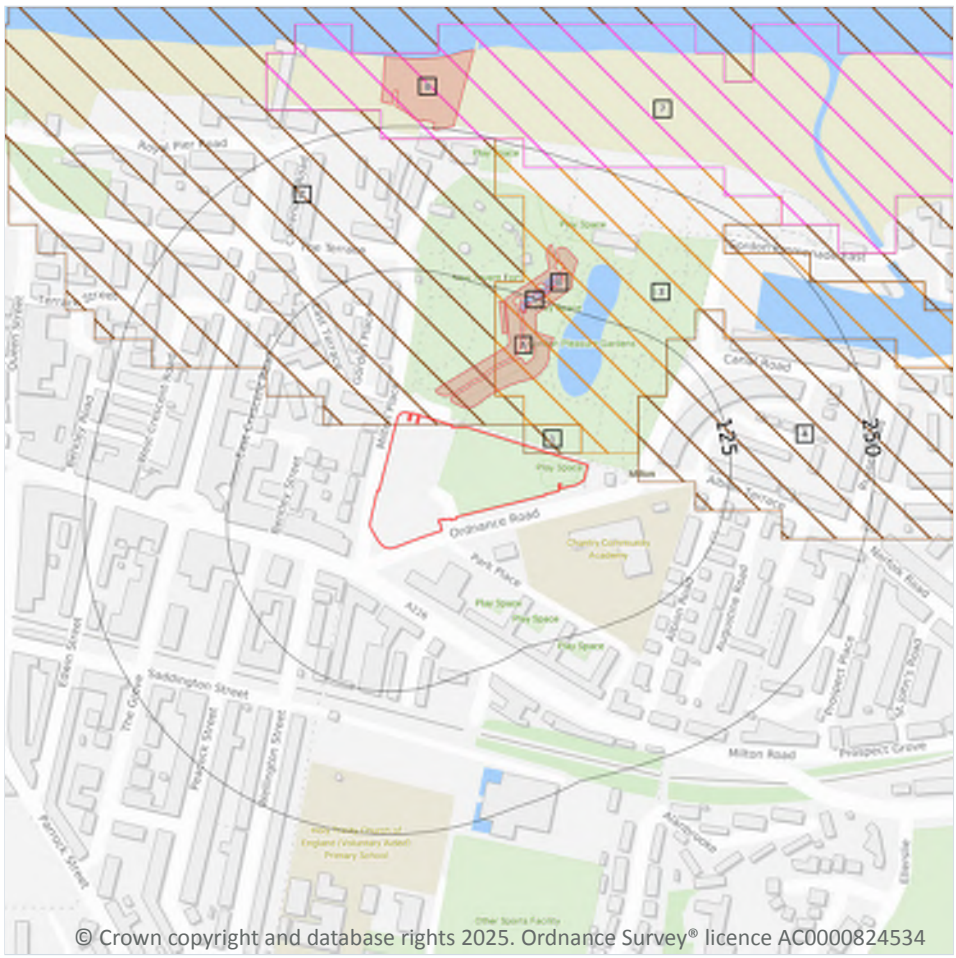
12.5 Countryside Stewardship Schemes

Records within 250m	0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations



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Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks

Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	6

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 107 >**

ID	Location	Main Habitat	Other habitats
A	17m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	23m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	88m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	110m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
6	139m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	248m N	Mudflats	Main habitat: MUDFL (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	**5**

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

Features are displayed on the Habitat designations map on **page 107 >**

ID	Location	Type	Habitat
1	**On site**	**Network Enhancement Zone 2**	**Not specified**
2	**On site**	**Network Enhancement Zone 2**	**Not specified**
3	8m N	Network Enhancement Zone 1	Not specified
4	44m E	Network Enhancement Zone 2	Not specified
7	233m N	Associated Habitats	Other associated habitats

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	**0**

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	**0**

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave

them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m **2**

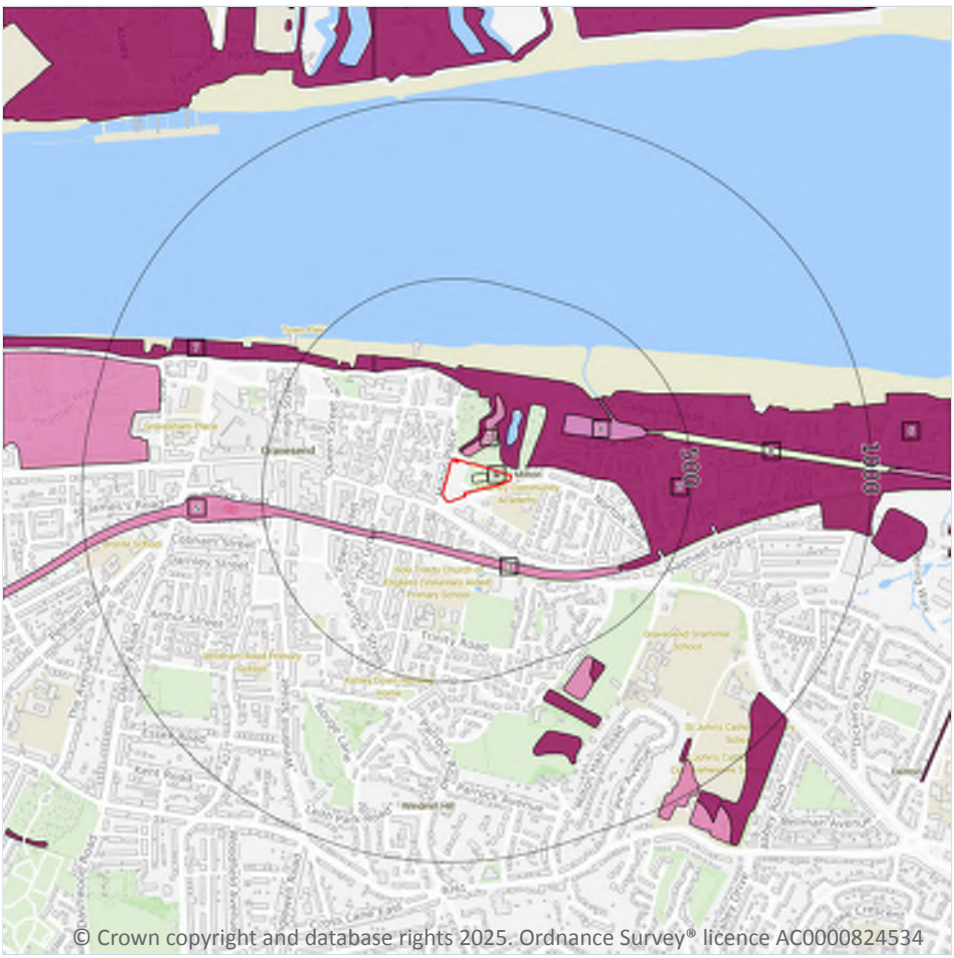
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 110 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**TQ67SE**
2	191m W	Full	Full	Full	Full	TQ67SW

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m	10

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

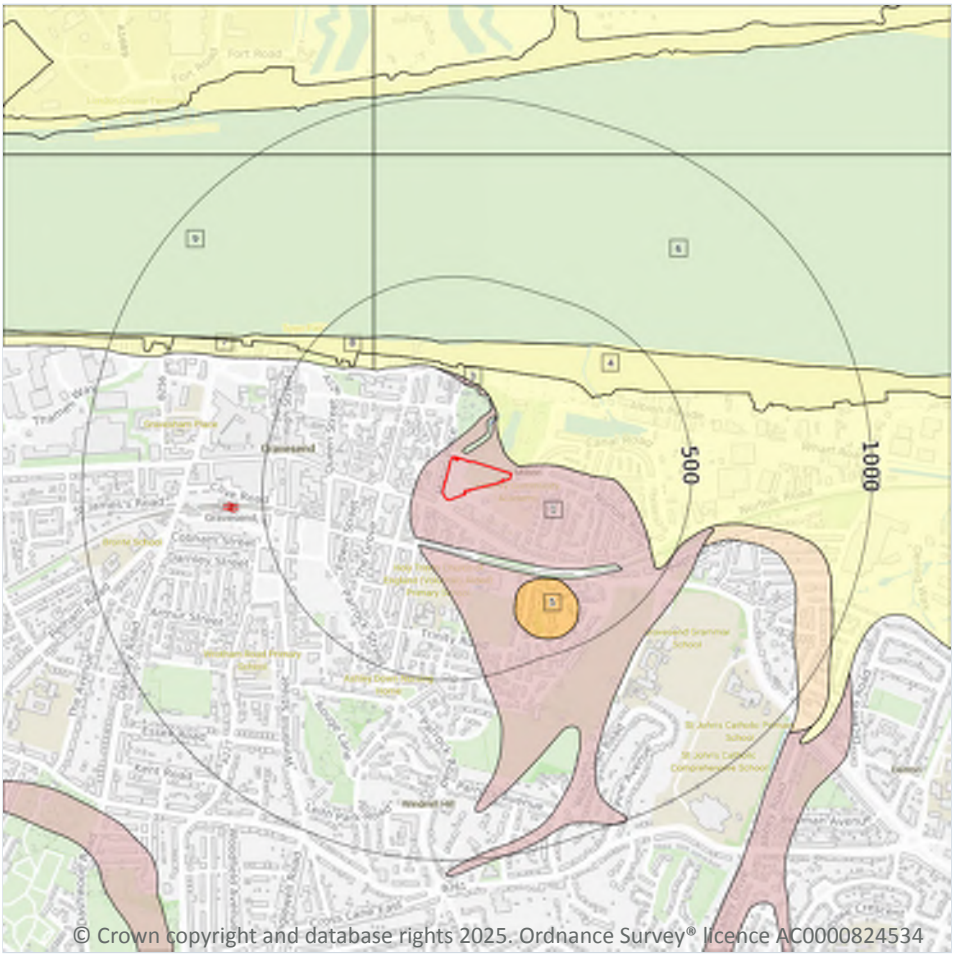
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 111 >**

ID	Location	LEX Code	Description	Rock description
A	**On site**	**WMGR-ARTDP**	**Infilled Ground**	**Artificial deposit**
A	**On site**	**WMGR-ARTDP**	**Infilled Ground**	**Artificial deposit**
1	17m N	WGR-VOID	Worked Ground (Undivided)	Void
2	21m N	MGR-ARTDP	Made Ground (Undivided)	Artificial deposit

ID	Location	LEX Code	Description	Rock description
3	123m S	WGR-VOID	Worked Ground (Undivided)	Void
4	184m NE	WGR-VOID	Worked Ground (Undivided)	Void
5	216m SW	WGR-VOID	Worked Ground (Undivided)	Void
6	325m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial deposit
7	326m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial deposit
8	391m E	WMGR-ARTDP	Infilled Ground	Artificial deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



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Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m **9**

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 113 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**HEAD-XSVCZ**	**Head-Sand, Gravel, Clay And Silt**	**Sand, gravel, clay and silt**
2	28m NE	ALV-Z	Alluvium-Silt	Silt
3	185m N	HEAD-XCZSV	Head-Clay, Silt, Sand And Gravel	Clay, silt, sand and gravel

ID	Location	LEX Code	Description	Rock description
4	249m N	TRD-Z	Tidal River Or Creek Deposits-Silt	Silt
5	286m S	LHGR-XSV	Lynch Hill Gravel Member-Sand And Gravel	Sand and gravel
6	320m N	ALV-Z	Alluvium-Silt	Silt
7	326m NW	ALV-Z	Alluvium-Silt	Silt
8	361m NW	TRD-Z	Tidal River Or Creek Deposits-Silt	Silt
9	398m NW	ALV-Z	Alluvium-Silt	Silt

This data is sourced from the British Geological Survey.

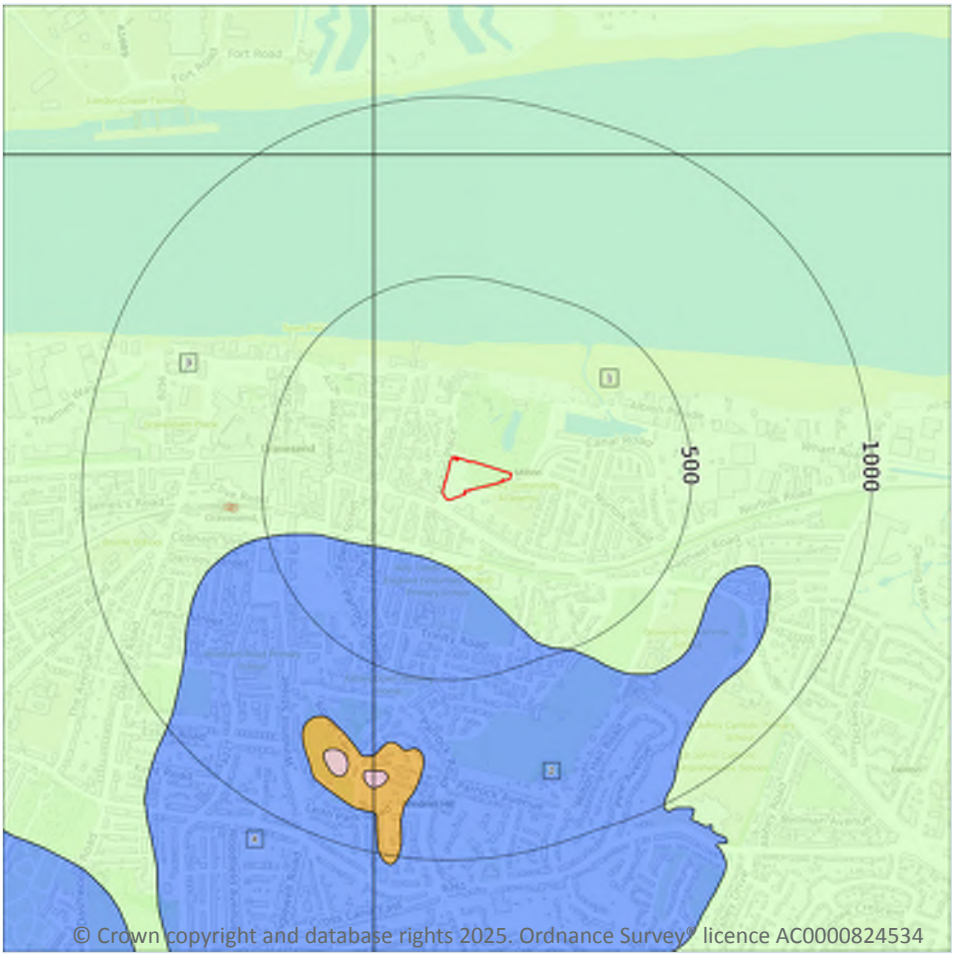
14.4 Landslip (10k)

Records within 500m	**0**

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m **4**

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 115 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**SECK-CHLK**	**Seaford Chalk Formation-Chalk**	**Coniacian**
2	173m S	TAB-S	Thanet Formation-Sand	Thanetian
3	191m W	SECK-CHLK	Seaford Chalk Formation-Chalk	Coniacian
4	240m SW	TAB-S	Thanet Formation-Sand	Thanetian

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

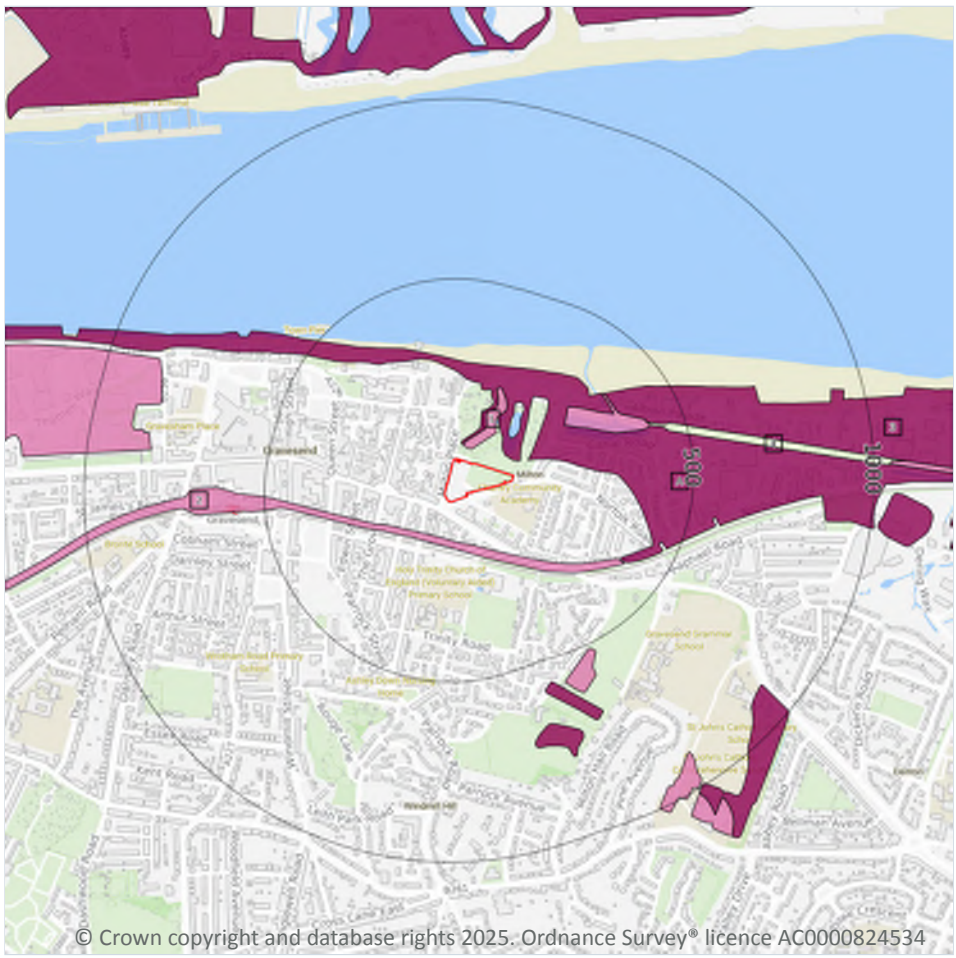
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 117 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW271_dartford_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m	6

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 118 >**

ID	Location	LEX Code	Description	Rock description
1	37m N	WGR-VOID	Worked Ground	Void
A	41m N	MGR-ARTDP	Made Ground	Artificial deposit
2	102m S	WGR-VOID	Worked Ground	Void
A	198m NE	WGR-VOID	Worked Ground	Void

ID	Location	LEX Code	Description	Rock description
3	338m NE	MGR-ARTDP	Made Ground	Artificial deposit
4	399m E	WMGR-ARTDP	Infilled Ground	Artificial deposit

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

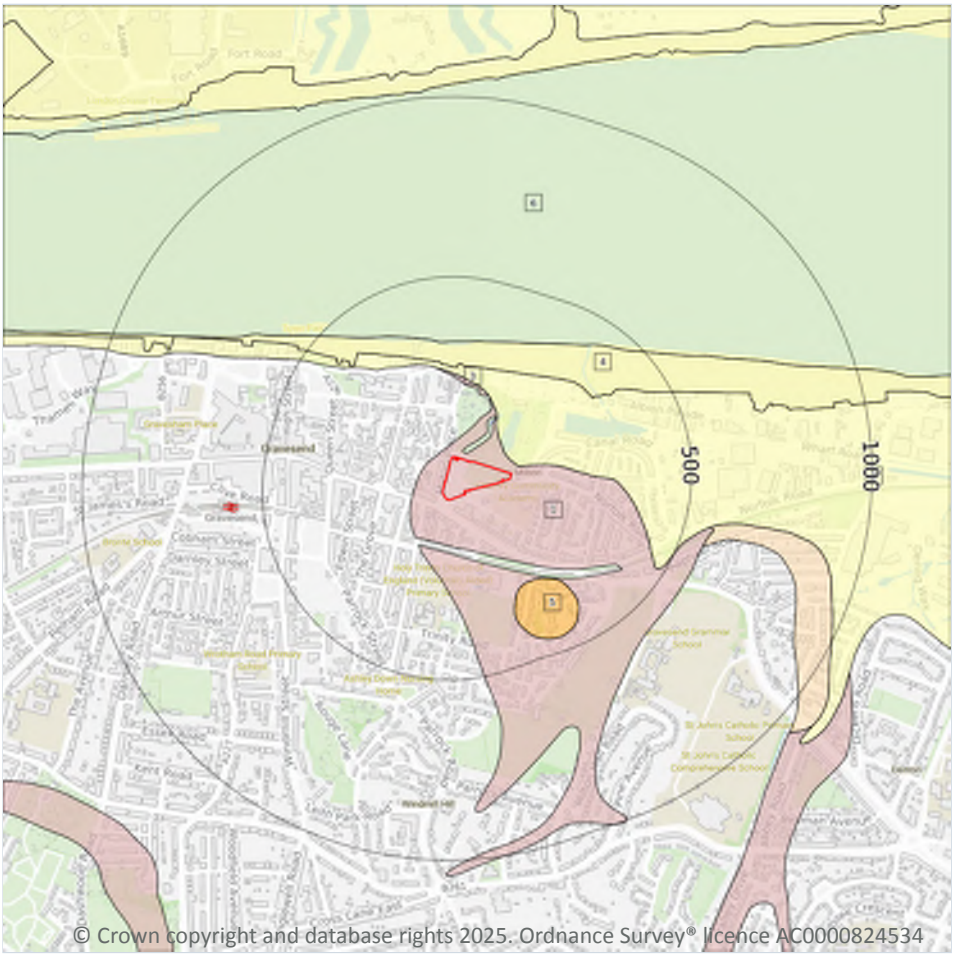
Records within 50m	**1**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
41m N	Mixed	Very High	Low

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m **6**

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 120 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**HEAD-DMTN**	**Head**	**Diamicton**
2	28m NE	ALV-Z	Alluvium	Silt
3	185m N	HEAD-DMTN	Head	Diamicton

ID	Location	LEX Code	Description	Rock description
4	249m N	TRD-Z	Tidal river or creek deposits	Silt
5	286m S	LHGR-XSV	Lynch Hill Gravel Member	Sand and gravel
6	320m N	ALV-Z	Alluvium	Silt

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	2

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Very Low**
46m NE	Intergranular	Moderate	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

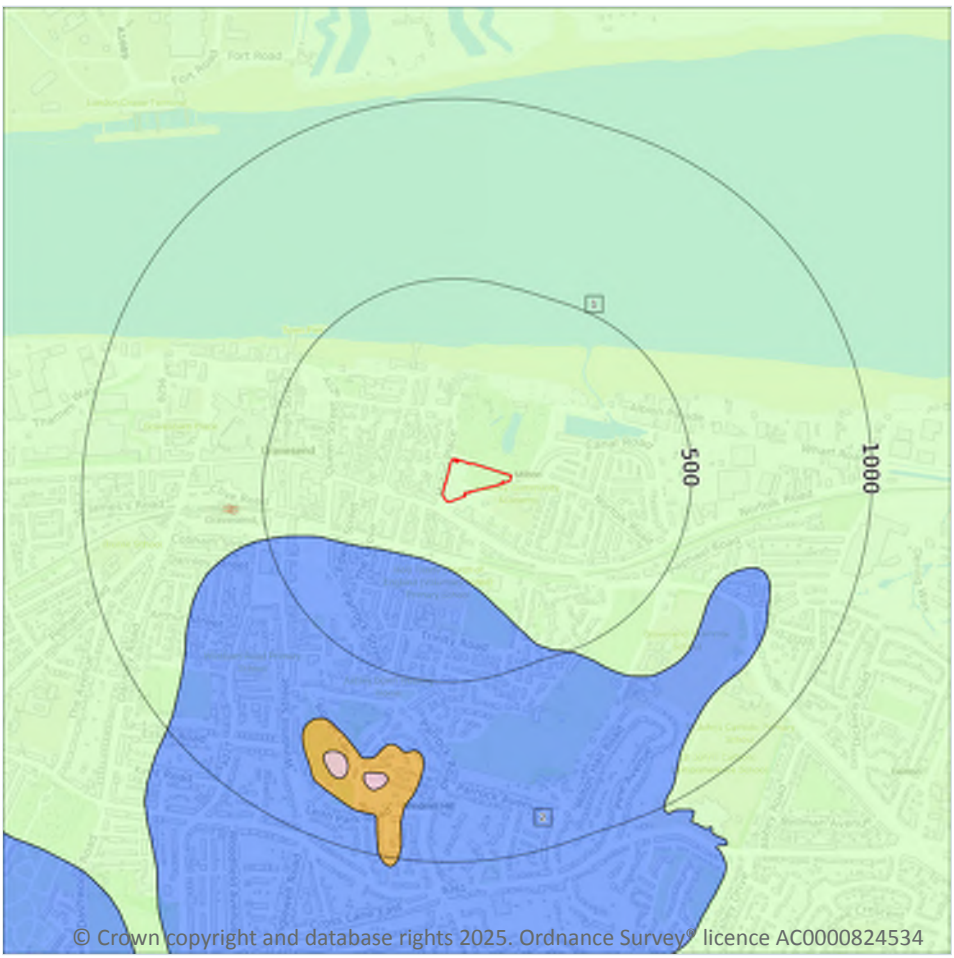
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



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Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m **2**

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 122 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**SECK-CHLK**	**Seaford Chalk Formation-Chalk**	**Coniacian**
2	173m S	TAB-S	Thanet Formation-Sand	Thanetian

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	**1**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Very High**	**Very High**

This data is sourced from the British Geological Survey.

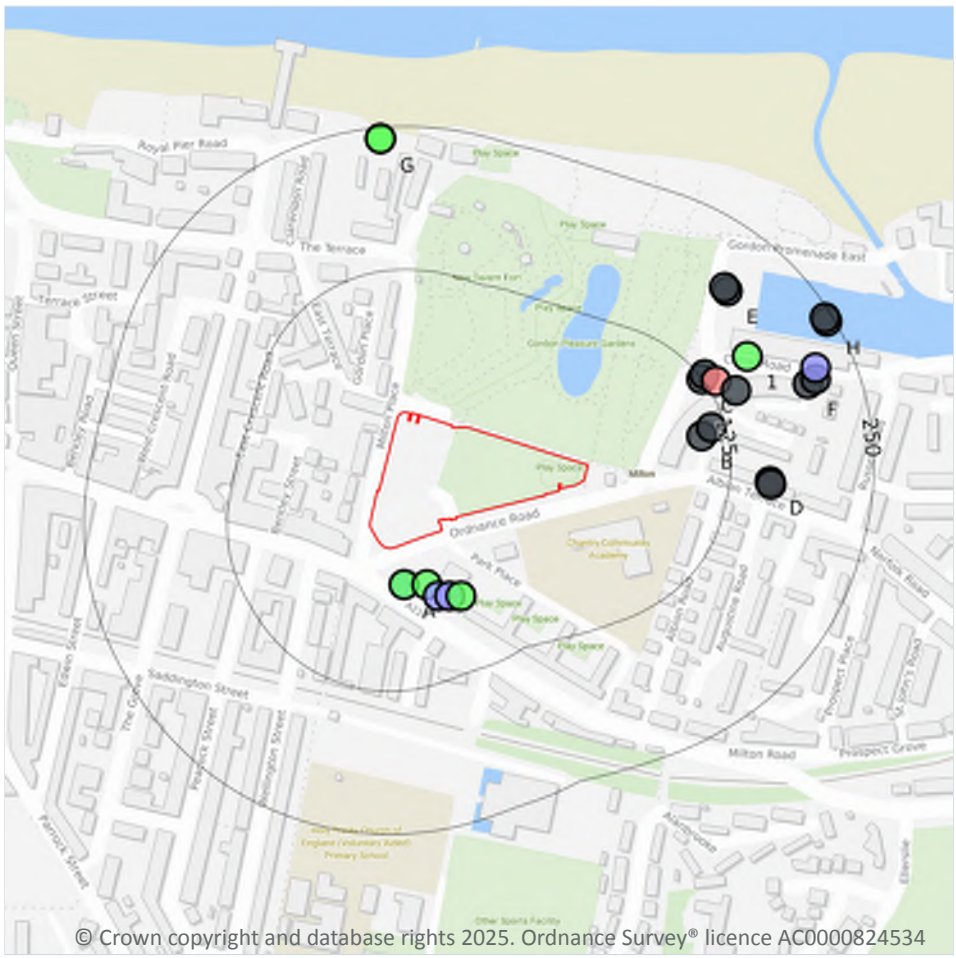
15.10 Bedrock faults and other linear features (50k)

Records within 500m	**0**

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	27

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

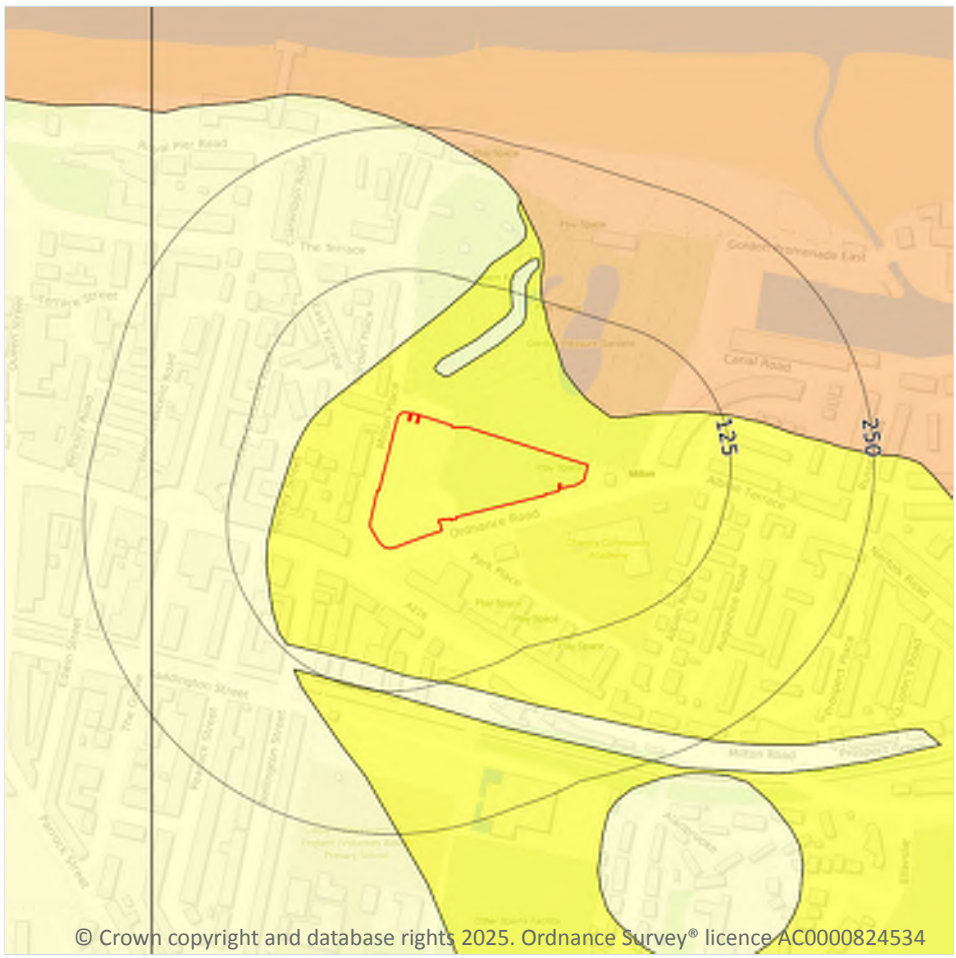
Features are displayed on the Boreholes map on **page 124 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	34m S	565220 174010	A226 MILTON RD GRAVESEND S3	7.5	N	725604 ↗
A	34m S	565220 174010	MILTON RD GRAVENSEND T.E 2	19.2	N	725590 ↗
A	40m S	565240 174010	MILTON RD GRAVENSEND T.E 1	17.37	N	725589 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	53m S	565250 174000	MILTON RD GRAVENSEND T.E 5	6.4	N	725593 ↗
A	57m S	565260 174000	MILTON RD GRAVENSEND T.E 4	6.4	N	725592 ↗
A	60m S	565270 174000	MILTON RD GRAVENSEND T.E 3	24.69	N	725591 ↗
B	102m E	565480 174140	CANAL BASIN GRAVESEND 101	-	Y	N/A
B	113m E	565489 174148	LAND EAST OF CANAL BASIN GRAVESEND 101	-	Y	N/A
C	125m NE	565480 174190	CANAL BASIN GRAVESEND WP121	-	Y	N/A
C	129m NE	565483 174194	LAND EAST OF CANAL BASIN GRAVESEND WP121	-	Y	N/A
C	134m NE	565493 174188	ALPHA PLANT LTD, OBH	160.5	N	725694 ↗
C	145m NE	565510 174180	CANAL BASIN GRAVESEND TP 151	-	Y	N/A
D	160m E	565540 174100	CANAL BASIN GRAVESEND WP122	-	Y	N/A
D	161m E	565541 174098	LAND EAST OF CANAL BASIN GRAVESEND WP122	-	Y	N/A
1	169m NE	565520 174210	GRAVESEND 2	15.0	N	725543 ↗
E	195m NE	565503 174267	LAND EAST OF CANAL BASIN GRAVESEND 106	-	Y	N/A
E	196m NE	565500 174270	CANAL BASIN GRAVESEND 106	-	Y	N/A
F	205m E	565573 174186	LAND EAST OF CANAL BASIN GRAVESEND 102	-	Y	N/A
F	213m E	565580 174190	CANAL BASIN GRAVESEND 102	-	Y	N/A
F	217m NE	565580 174200	GRAVESEND 3	7.0	N	725544 ↗
G	240m N	565200 174400	GRAVESEND CUSTOMS AND EXCISE JETTY 1	30.5	N	725567 ↗
G	240m N	565200 174400	GRAVESEND CUSTOMS AND EXCISE JETTY 2	20.0	N	725568 ↗
G	240m N	565200 174400	GRAVESEND CUSTOMS AND EXCISE JETTY 3	30.5	N	725569 ↗
G	240m N	565200 174400	GRAVESEND CUSTOMS AND EXCISE JETTY 4	20.0	N	725570 ↗
G	240m N	565200 174400	GRAVESEND CUSTOMS AND EXCISE JETTY 5	30.0	N	725571 ↗
H	244m NE	565590 174240	CANAL BASIN GRAVESEND WP129	-	Y	N/A
H	244m NE	565588 174244	LAND EAST OF CANAL BASIN GRAVESEND WP129	-	Y	N/A

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	4

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

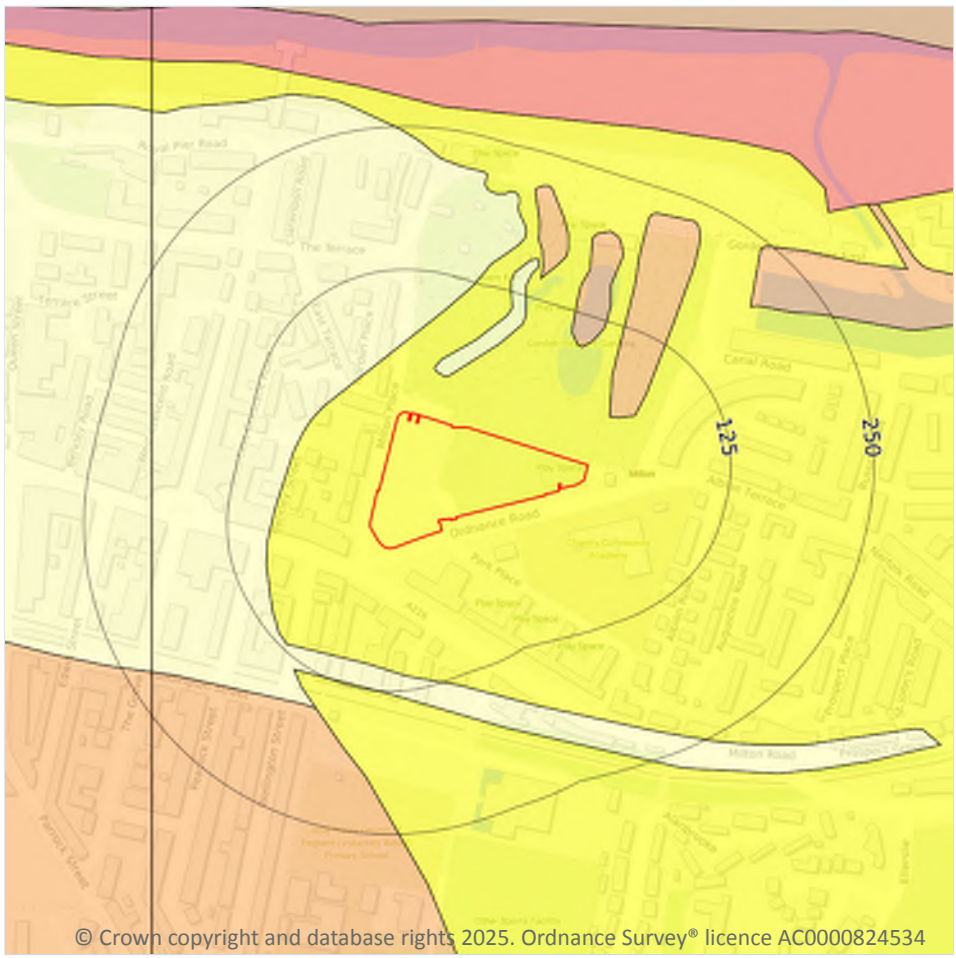
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 126 >**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**
39m N	Negligible	Ground conditions predominantly non-plastic.
46m NE	Low	Ground conditions predominantly medium plasticity.

Location	Hazard rating	Details
47m NW	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	4

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

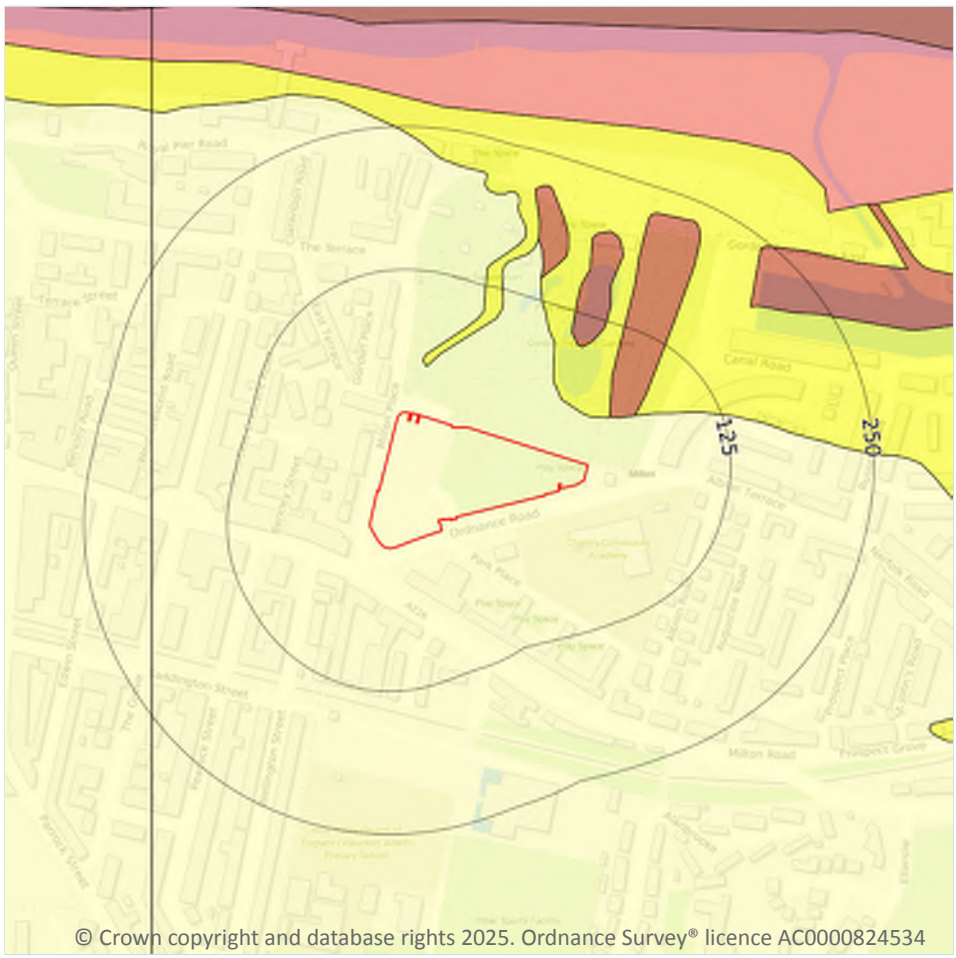
Features are displayed on the Natural ground subsidence - Running sands map on **page 128 >**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

Location	Hazard rating	Details
39m N	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.
46m NE	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.
47m NW	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	3

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

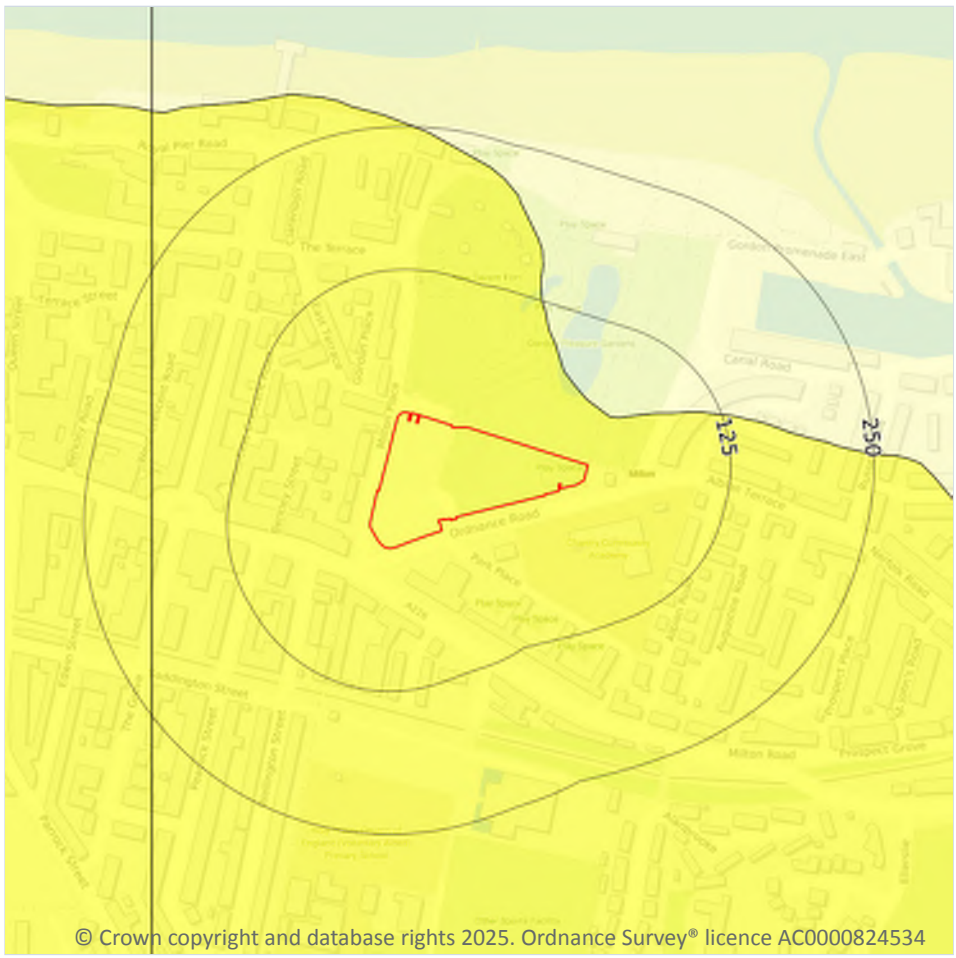
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 130 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
41m N	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

Location	Hazard rating	Details
46m NE	High	Highly compressible strata present. Significant constraint on land use depending on thickness.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	2

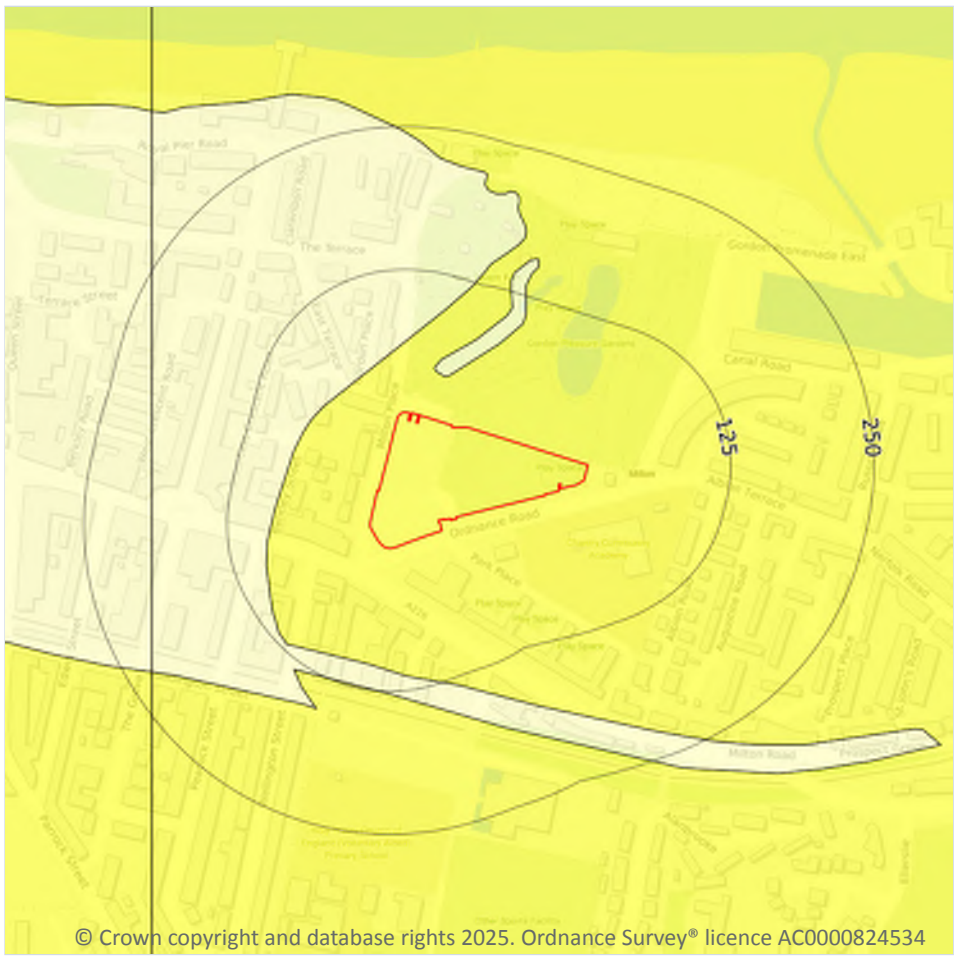
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 132 >**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**
46m NE	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	3

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

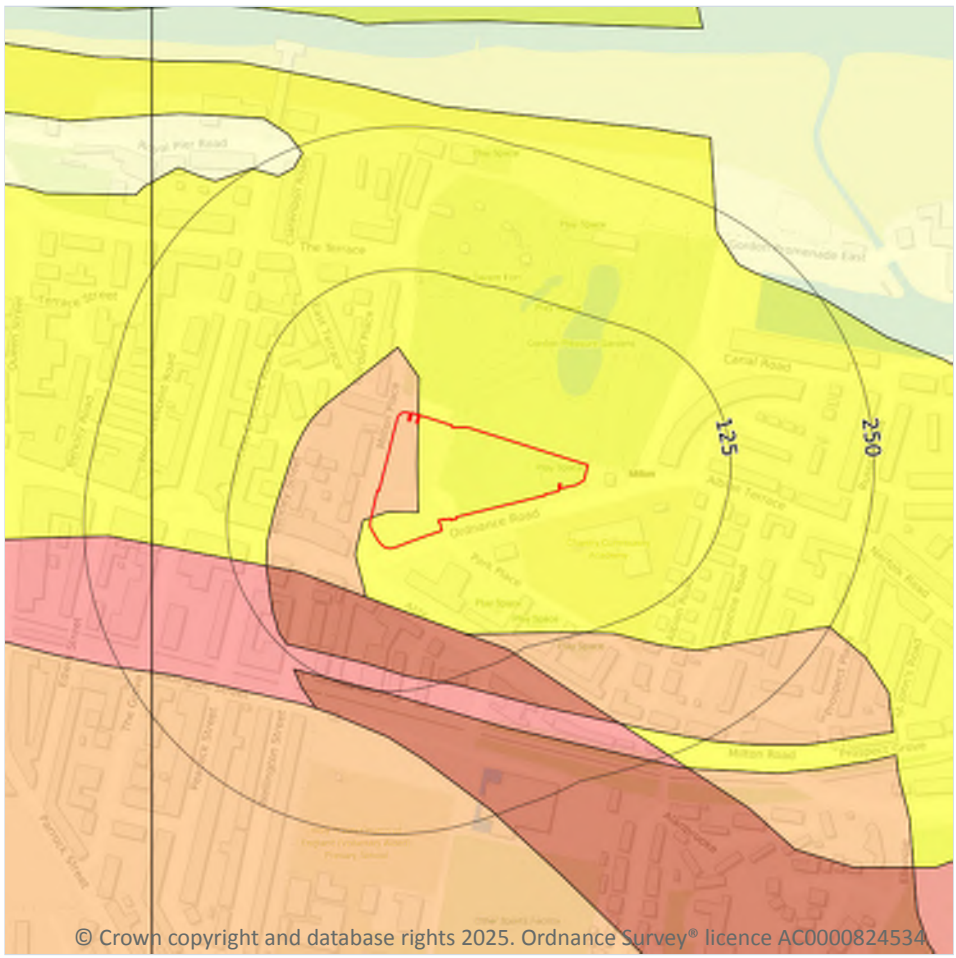
Features are displayed on the Natural ground subsidence - Landslides map on **page 133 >**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

Location	Hazard rating	Details
39m N	Negligible	Slope instability problems are not thought to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.
47m NW	Negligible	Slope instability problems are not thought to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	3

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

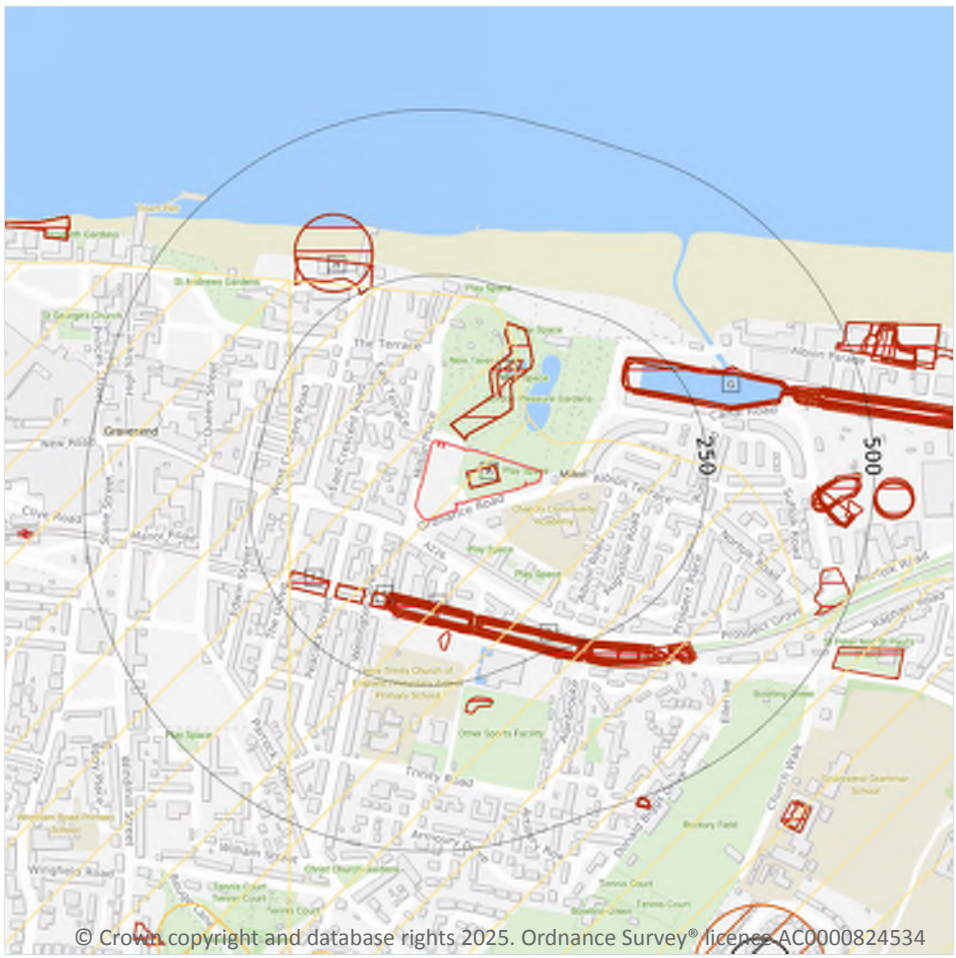
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 135 >**

Location	Hazard rating	Details
On site	**Very low**	**Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.**

Location	Hazard rating	Details
On site	**Low**	**Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.**
47m S	High	Soluble rocks are present within the ground. Numerous dissolution features may be present. Potential for difficult ground conditions should be investigated. Potential for localised subsidence is at a level where it should be considered.

This data is sourced from the British Geological Survey.

18 Mining and ground workings



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Site Outline

Search buffers in metres (m)

BritPits

Surface ground workings

Underground workings

Underground mining extents

Historical mineral planning areas

TCA non-coal mining

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	60

Historical land uses identified from Ordnance Survey® mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on **page 137 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Pond**	**1981**	**1:10000**
A	**On site**	**Pond**	**1973**	**1:10000**
A	**On site**	**Pond**	**1955**	**1:10560**
A	**On site**	**Pond**	**1966**	**1:10560**
B	14m N	Unspecified Ground Workings	1981	1:10000
B	14m N	Unspecified Ground Workings	1973	1:10000
B	14m N	Unspecified Ground Workings	1955	1:10560
B	14m N	Unspecified Ground Workings	1966	1:10560
B	89m N	Ponds	1932	1:10560
C	119m S	Cuttings	1916	1:10560
C	120m S	Cuttings	1938	1:10560
C	121m S	Cuttings	1895	1:10560
D	121m S	Cuttings	1938	1:10560
C	125m S	Cuttings	1981	1:10000
C	125m S	Cuttings	1973	1:10000
C	125m S	Cuttings	1955	1:10560
C	125m S	Cuttings	1966	1:10560
D	126m S	Cuttings	1932	1:10560
D	126m S	Cuttings	1895	1:10560
D	126m S	Cuttings	1895	1:10560
C	127m S	Cuttings	1938	1:10560
C	127m S	Cuttings	1951	1:10560
C	127m S	Cuttings	1907	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
C	127m S	Cuttings	1895	1:10560
E	128m SW	Cuttings	1981	1:10000
E	128m SW	Cuttings	1973	1:10000
E	128m SW	Cuttings	1955	1:10560
E	128m SW	Cuttings	1966	1:10560
C	130m S	Cuttings	1888	1:10560
C	132m S	Cuttings	1923	1:10560
E	139m SW	Cuttings	1981	1:10000
E	139m SW	Cuttings	1973	1:10000
E	139m SW	Cuttings	1955	1:10560
E	139m SW	Cuttings	1966	1:10560
D	162m S	Cuttings	1916	1:10560
D	162m S	Cuttings	1895	1:10560
D	163m S	Cuttings	1938	1:10560
D	167m S	Cuttings	1888	1:10560
D	168m S	Cuttings	1981	1:10000
D	168m S	Cuttings	1973	1:10000
D	168m S	Cuttings	1955	1:10560
D	168m S	Cuttings	1966	1:10560
F	169m SW	Cuttings	1973	1:10000
F	169m SW	Cuttings	1955	1:10560
F	169m SW	Cuttings	1966	1:10560
D	172m S	Cuttings	1938	1:10560
D	172m S	Cuttings	1951	1:10560
D	172m S	Cuttings	1907	1:10560
D	172m S	Cuttings	1895	1:10560
C	172m S	Unspecified Heap	1955	1:10560
D	175m S	Cuttings	1923	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
G	176m NE	Canal	1932	1:10560
G	178m NE	Canal	1938	1:10560
G	178m NE	Canal	1938	1:10560
G	178m NE	Canal	1895	1:10560
G	182m NE	Canal	1973	1:10000
G	182m NE	Canal	1955	1:10560
G	182m NE	Disused Canal	1966	1:10560
H	248m NW	Unspecified Wharf	1932	1:10560
H	248m NW	Unspecified Wharf	1932	1:10560

This is data is sourced from Ordnance Survey®/Groundsure.

18.3 Underground workings

Records within 1000m	**1**

Historical land uses identified from Ordnance Survey® mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining and ground workings map on **page 137 >**

ID	Location	Land Use	Year of mapping	Mapping scale
-	994m W	Tunnel	1977	1:10000

This is data is sourced from Ordnance Survey®/Groundsure.

18.4 Underground mining extents

Records within 500m	**0**

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	12

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining and ground workings map on **page 137 >**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Chalk**	**A**	**Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.**
2	191m W	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
6	670m S	Not available	Chalk	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
R	672m SW	Not available	Chalk	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	704m W	Clifton Road	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

ID	Location	Name	Commodity	Class	Likelihood
T	710m SE	Milton Hall Road	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	738m SW	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	754m W	Clifton Road	Chalk	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	755m S	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	759m S	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
T	760m SE	Milton Hall Road	Chalk	E	Underground mining is known or considered likely within or very close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
-	962m S	Singlewell Road	Chalk	D	Underground mining is considered likely to have occurred within or close to the area. The location, extent and nature of mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	1

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

Location	Mineral type
401m NW	Stone

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Ground cavities and sinkholes



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

Mining cavities

Reported recent incidents

Historical incidents

19.1 Natural cavities

Records within 500m	1

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

Features are displayed on the Ground cavities and sinkholes map on **page 145 >**

ID	Location	Details
1	399m SW	Type: Solution Pipe x 20 Superficial Geology: None Bedrock Geology: Chalk Group, Thanet Sand Formation

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	3

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

Features are displayed on the Ground cavities and sinkholes map on **page 145 >**

ID	Location	Mine Address	Mineral
-	755m W	Clifton Road Tunnel, Gravesend, Kent	Chalk
-	791m S	Milton Hall Road, Gravesend, Kent	Chalk
-	896m S	Gravesend, Kent	Chalk

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

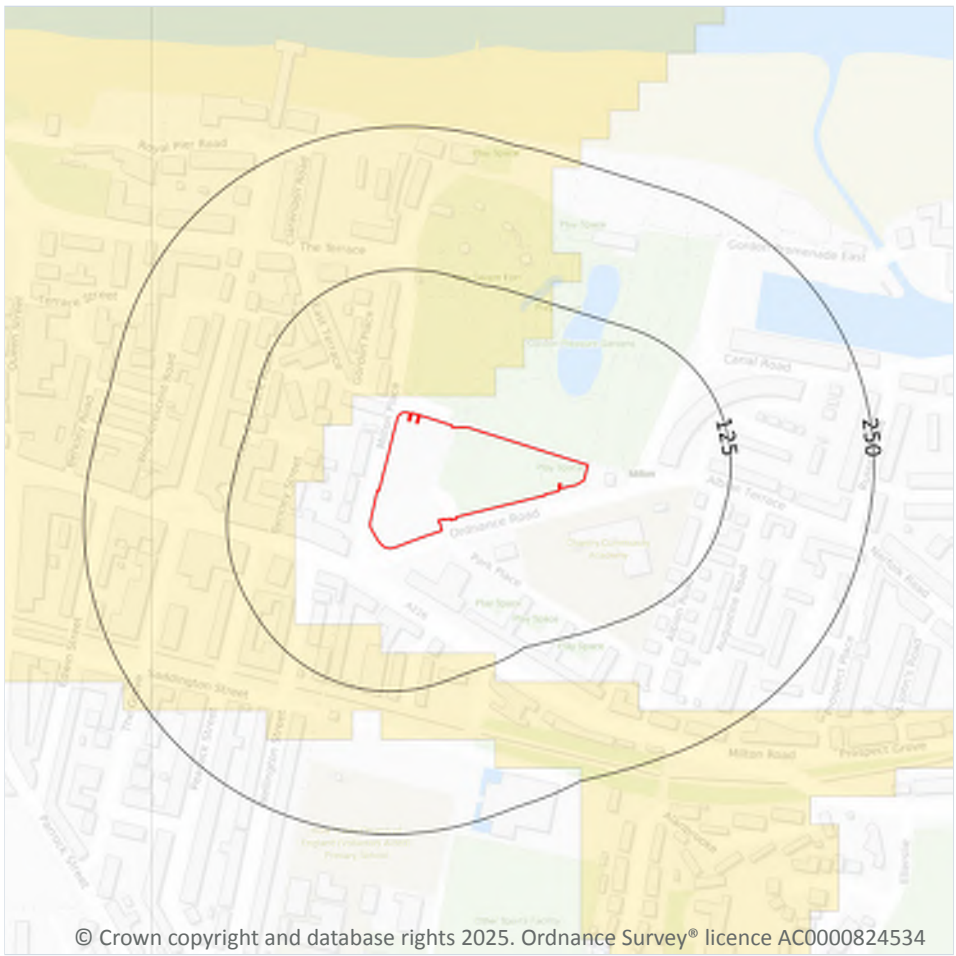
Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey® maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey® mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

20 Radon



Site Outline

Search buffers in metres (m)

Greater than 30%

Between 10% and 30%

Between 5% and 10%

Between 3% and 5%

Between 1% and 3%

Less than 1%

20.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 147 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None**

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	**5**

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**200 - 300 mg/kg**	**120 - 240 mg/kg**	**1.8 mg/kg**	**90 - 120 mg/kg**	**30 - 45 mg/kg**
39m N	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
42m S	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
46m NE	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
47m NW	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	**0**

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

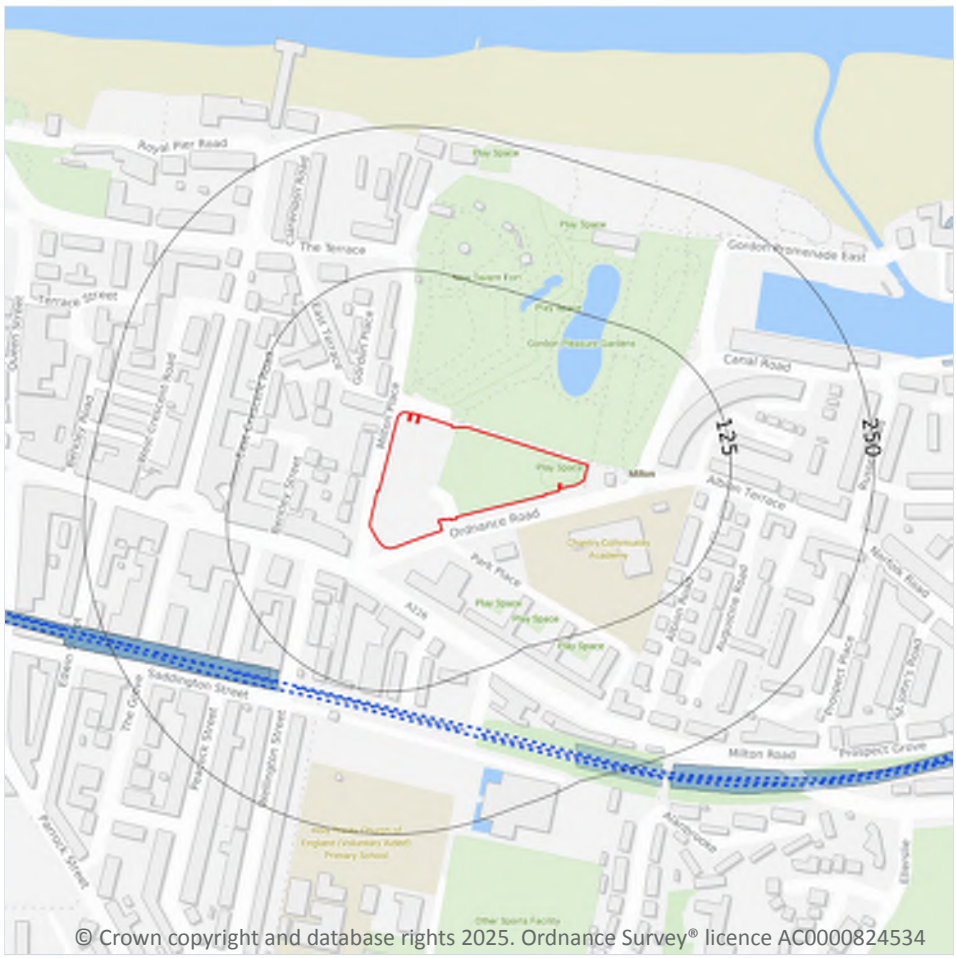
21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey® mapping.

This data is sourced from the Ordnance Survey®.

22.4 Historical railway and tunnel features

Records within 250m	4

Railways and tunnels digitised from historical Ordnance Survey® mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 151 >**

Location	Land Use	Year of mapping	Mapping scale
142m SW	Railway	1895	-
142m SW	Railway	1907	-
145m SW	Railway	1930	-
217m S	Railway	1867	-

This data is sourced from Ordnance Survey®/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	8

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

Features are displayed on the Railway infrastructure and projects map on **page 151 >**

Location	Name	Type
136m S	North Kent Line	rail
138m S	Not given	Multi Track
140m SW	Not given	Multi Track
142m S	North Kent Line	rail
151m SW	Not given	Multi Track
180m S	Not given	Multi Track
181m SW	Not given	Multi Track
228m SW	Not given	Multi Track

This data is sourced from Ordnance Survey® and OpenStreetMap.

22.8 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.

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APPENDIX D: Trial Hole Logs

Trial Pit Log

Project Name: Land at Milton Place	Client: Hills Partnership Ltd	Date: 28/10/2025
Location: Land at Milton Place, Gravesend, DA12 2BH	Contractor: ABSI	
Project No. : GWPR6764	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP1	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D					TOPSOIL: Light brown gravely SAND. Sand is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint.
		0.50	D		0.40			Structureless CHALK composed of slightly sandy silty subangular to sub rounded GRAVEL. Clasts are upper end of weak, low to medium density, cream with occasional brown staining. Matrix is light brown/ offwhite. (SEAFORD CHALK FORMATION-CHALK) (Grade Dc)
		0.80	D					
		1.00	D		1.00			Structureless CHALK composed of slightly silty subangular to sub rounded GRAVEL. Clasts are upper end of weak, low to medium density, cream with occasional brown staining. (SEAFORD CHALK FORMATION-CHALK) (Grade Dc)
		1.50	D					
		2.00	D		2.00			End of Borehole at 2.000m

1 2 3 4 5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

Roots Encountered to 0.30m bgl
No Groundwater Encountered

Trial Pit Log

Project Name: Land at Milton Place	Client: Hills Partnership Ltd	Date: 28/10/2025
Location: Land at Milton Place, Gravesend, DA12 2BH	Contractor: ABSI	
Project No. : GWPR6764	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP2	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	D		0.20			TOPSOIL: Light brown gravely SAND. Sand is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint.
		0.50	D					Structureless CHALK composed of slightly silty subangular to sub rounded GRAVEL. Clasts are upper end of weak, low to medium density, cream with occasional off white staining. (SEAFORD CHALK FORMATION-CHALK) (Grade Dc)
		0.80	D					
		1.00	D					
		1.50	D					
		2.00	D		2.00			End of Borehole at 2.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

Roots Encountered to 0.30m bgl
No Groundwater Encountered

Trial Pit Log

Project Name: Land at Milton Place	Client: Hills Partnership Ltd	Date: 28/10/2025
Location: Land at Milton Place, Gravesend, DA12 2BH	Contractor: ABSI	
Project No. : GWPR6764	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP3	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.20			TOPSOIL: Light brown gravely SAND. Sand is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint.
		0.50	D		0.60			Dark brown, gravely chalky SAND. Sand is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint (HEAD DEPOSITS).
		0.80	D					Structureless CHALK composed of slightly silty subangular to sub rounded GRAVEL. Clasts are upper end of weak, low to medium density, cream with occasional brown staining. Matrix is off white. (SEAFORD CHALK FORMATION-CHALK) (Grade Dc)
		1.00	D					
		1.50	D					
		2.00	D		2.00			End of Borehole at 2.000m

1 2 3 4 5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

Roots Encountered to 0.30m bgl
No Groundwater Encountered

Trial Pit Log

Project Name: Land at Milton Place	Client: Hills Partnership Ltd	Date: 27/11/2025
Location: Land at Milton Place, Gravesend, DA12 2BH	Contractor: ABSI	
Project No. : GWPR6764	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP6	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			Black Tarmac
		0.20	D		0.25			Cream and grey, sandy GRAVEL. Sand is fine to coarse. Gravel is coarse, consisting of angular to subangular hardcore (MADE GROUND).
		0.50	D					Brown, gravely sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint and brick (MADE GROUND).
		0.80	D					
		1.00	D		0.90			Structureless CHALK composed of slightly silty subangular to sub rounded GRAVEL. Clasts are upper end of weak, low to medium density, cream with occasional brown staining. Matrix is off white/light brown. (SEAFORD CHALK FORMATION-CHALK) (Grade Dc)
		1.50	D		1.50			End of Borehole at 1.500m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

No Roots Encountered
No Groundwater Encountered

Trial Pit Log

Project Name: Land at Milton Place	Client: Hills Partnership Ltd	Date: 27/11/2025
Location: Land at Milton Place, Gravesend, DA12 2BH	Contractor: ABSI	
Project No. : GWPR6764	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP7	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05			Black Tarmac
		0.20	D		0.25			Reddish brown and orangish brown sandy GRAVEL. Sand is fine to coarse. Gravel is fine to cobble, consisting of angular to subangular hardcore (MADE GROUND).
					0.45			CONCRETE
		0.50	D					Brown and grey sandy GRAVEL. Sand is fine to coarse. Gravel is fine to cobble, consisting of angular to subangular hardcore (MADE GROUND).
		0.80	D					
		1.00	D					
					1.40			
		1.50	D		1.50			Structureless CHALK composed of slightly silty subangular to sub rounded GRAVEL. Clasts are upper end of weak, low to medium density, cream with occasional brown staining. Matrix is off white/light brown. (SEAFORD CHALK FORMATION-CHALK) (Grade Dc)
								End of Borehole at 1.500m

1
2
3
4
5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

Roots Encountered to 0.30m bgl
No Groundwater Encountered

Trial Pit Log

Project Name: Land at Milton Place	Client: Hills Partnership Ltd	Date: 01/10/2025
Location: Land at Milton Place, Gravesend, DA12 2BH	Contractor: ABSI	
Project No. : GWPR6764	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP8	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.10 0.15			TOPSOIL: Dark Brown, gravelly clayey SAND, SAND is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint. TARMAC Orangish brown, sandy CLAY. Sand is fine to coarse (HEAD DEPOSITS)
		0.50	D					
		0.80	D		0.70			Structureless CHALK composed of slightly gravelly, silty subangular to sub rounded GRAVEL. Clasts are upper end of weak, low to medium density, cream with occasional brown staining. Gravel consisted of medium, angular flints. Matrix is off white/light brown. (SEAFORD CHALK FORMATION-CHALK) (Grade Dc)
		1.00	D					
		1.50	D		1.50			End of Borehole at 1.500m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

Roots Encountered to 0.30m bgl
No Groundwater Encountered

Trial Pit Log

Project Name: Land at Milton Place		Client: Hills Partnership Ltd	Date: 01/10/2025
Location: Land at Milton Place, Gravesend, DA12 2BH		Contractor: ABSI	
Project No. : GWPR6764		Crew Name:	Equipment:
Location Number: TP9	Location Type: TP	Level:	Logged By:
Scale: 1:25	Page Number: Sheet 1 of 1		

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	D		0.30			TOPSOIL: Brown, gravelly clayey SAND, SAND is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint and brick.
		0.50	D		0.70			Dark brown, gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to cobble, consisting of angular to subangular chalk, flint (MADE GROUND)
		0.80	D					Orangish brown, sandy CLAY. Sand is fine to coarse (HEAD DEPOSITS).
		1.00	D					
		1.50	D		1.50			End of Borehole at 1.500m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

Roots Encountered to 0.30m bgl
No Groundwater Encountered

Trial Pit Log

Project Name: Land at Milton Place	Client: Hills Partnership Ltd	Date: 01/10/2025
Location: Land at Milton Place, Gravesend, DA12 2BH	Contractor: ABSI	
Project No. : GWPR6764	Crew Name:	Equipment:

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP10	TP			1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	D		0.10			TOPSOIL: Dark Brown, gravelly clayey SAND, SAND is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint and brick.
		0.50	D					Brown and grey, gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to cobble, consisting of angular to subangular brick, rock, flint, concrete hardcore (MADE GROUND).
		0.80	D		0.70			Orangish brown, sandy CLAY. Sand is fine to coarse (HEAD DEPOSITS).
		1.00	D					
		1.50	D		1.50			End of Borehole at 1.500m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

Roots Encountered to 0.30m bgl
No Groundwater Encountered

Rotary Core Log

Project Name: Land at Milton Place	Client: Hills Partnership Ltd	Date: 28/11/2025
Location: Land at Milton Place, Gravesend, DA12 2BH	Contractor: ABSI	
Project No. : GWPR6764	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
TP4	RC			1:50	Sheet 1 of 1

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	C				152mm	0.10			TOPSOIL: Light brown gravely SAND. Sand is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint.
		0.00 - 2.00		0							Brown, sandy clayey GRAVEL. Sand is fine to coarse, gravel is fine to boulder, consisting of angular to subangular concrete, brick, flint (MADE GROUND).
		1.50	C								
							152mm				
		2.50	C					2.50			Off-white, hard CONCRETE SLAB. 2% voids, 60% martix/40% gravel. Gravel consists of medium rounded to angular flint and aggregate.
		2.00 - 3.50		20				2.70			
		3.00	C					2.80			Layer of hard fill GRAVEL. Gravel consists of fine to coarse, rounded to angular flint and concrete aggregate.
		3.50	C				152mm				
		4.00	C								Weak, medium density, white with occasional black specks, structured CHALK. Fractures closely spaced (30mm, 55mm, 70mm) and open 3mm. Fractures horizonal and sub horizontal and 80° to vertical. No Discernible fracture sets (SEAFORD CHALK, MEDIUM DENSITY, GRADE C4)
		3.50 - 5.00		100	0	0					
							(27)	5.00			End of Borehole at 5.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

Roots Encountered to 0.30m bgl
No Groundwater Encountered

Rotary Core Log

Project Name: Land at Milton Place	Client: Hills Partnership Ltd	Date: 27/11/2025
Location: Land at Milton Place, Gravesend, DA12 2BH	Contractor: ABSI	
Project No. : GWPR6764	Crew Name:	Drilling Equipment:

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
TP5	RC			1:50	Sheet 1 of 1

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	C				152mm	0.10			TOPSOIL: Light brown gravely SAND. Sand is fine to coarse. Gravel is fine to coarse consisting of angular to subangular flint.
		0.50	C								
		0.00 - 1.50		20							Brown, sandy GRAVEL. Sand is fine to coarse, gravel is fine to boulder, consisting of angular to subangular concrete, brick, flint (MADE GROUND).
							152mm	1.50			Orangey brown, sandy gravelly CLAY. Sand is fine to coarse, gravel is fine to boulder, consisting of angular to subangular concrete, brick, flint (MADE GROUND).
		1.50 - 3.00		80							
		2.50	C					2.50			Off-white, hard CONCRETE SLAB. 2% voids, 60% martix/40% gravel. Gravel consists of medium rounded to angular flint and aggregate.
								2.70			
		3.00	C				152mm	2.80			layer of hard fill GRAVEL. Gravel consists of fine to coarse, rounded to angular flint and concrete aggregate.
		3.50	C								
		3.00 - 4.50		80	0	0					Weak, medium density, white with occasional black specks, structured CHALK. Fractures closely spaced (25mm, 65mm, 80mm) and open 3mm. Fractures horizonal and sub horizontal and 80° to vertical. No Discernible fracture sets (SEAFORD CHALK, MEDIUM DENSITY, GRADE C4)
		4.00	C				(30)				
								5.00			Large subrounded flint cobble, black with medium rounded flint clasts
											End of Borehole at 4.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

Roots Encountered to 0.30m bgl
No Groundwater Encountered

2 The Long Barn,
Norton Farm, Selborne Road,
Alton, Hampshire GU34 3NB

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enquiries@groundandwater.co.uk

groundandwater.co.uk

APPENDIX E: Geotechnical Laboratory Testing

Laboratory Report

Contract Number: 82358

Client Ref: **GWPR6764**
Client PO: **GWPR6764**

Date Received: **13-11-2025**
Date Completed: **18-11-2025**
Report Date: **18-11-2025**

Client: **Ground and Water Limited**

Contract Title: **Land at Milton Place, Gravesend, DA12 2BH**
For the attention of: **Toby Dobson-Smith**

This report has been checked and approved by:

[redacted]

Shaun Jones
Laboratory manager

Description	Qty
Saturated Moisture Content of chalk (SMC) BS 1377:1990 - Part 2 : 3.3 - * UKAS	2

Notes: **Observations and Interpretations are outside the UKAS Accreditation**
*** - denotes test included in laboratory scope of accreditation**
- denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

Approved Signatories:
Brendan Evans (Business Support Co-ordinator) - Darren Bourne (Quality Senior Technician) - Luke Williams (Senior Laboratory Technician)
Paul Evans (Director) - Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager)
Shaun Thomas (Site Manager) - Wayne Honey (HR & HSE Manager)

GEO Site & Testing Services Ltd
Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN
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GSTL
GEOTECHNICAL SITE & TESTING LABORATORIES

Saturation Moisture Content of Chalk
BS 1377 : Part 2 : 1990 Section 3.3

Contract Number	82358
Project Name	Land at Milton Place, Gravesend, DA12 2BH
Date Tested	14/11/2025

Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content	Bulk Density	Dry Density	Saturated Moisture Content	Remarks
TP2		D	2.00	-		31	1.93	1.47	31	NON-STANDARD
TP3		D	1.50	-		28	1.94	1.52	29	NON-STANDARD
				-						
				-						
				-						
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Key	Reported As	Clause
Moisture Content	%	3.2
Bulk Density	Mg/m^3	7.2
Dry Density	Mg/m^3	7.2
SMC	%	3.3.6

If there is a NON-STANDARD in the remarks next to the reported SMC result this means there was no lump of chalk of sufficient volume (300mL-500mL) present in the samples received to meet the testing requirements of the stated standard.

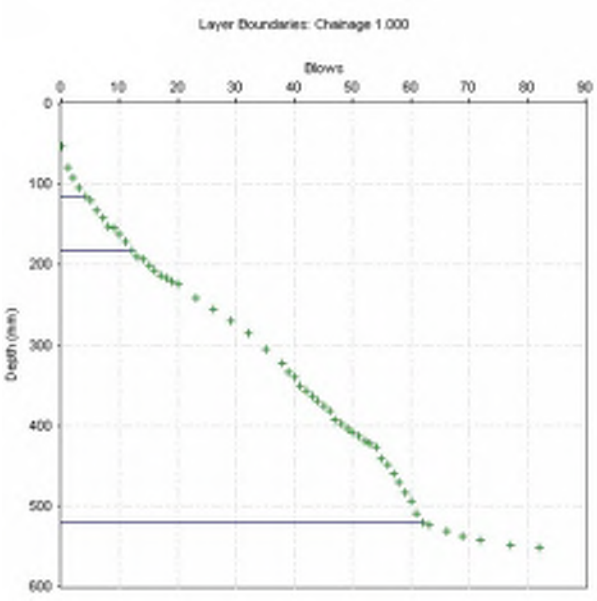
Operator
Julian Jones

UK DCP V3.1

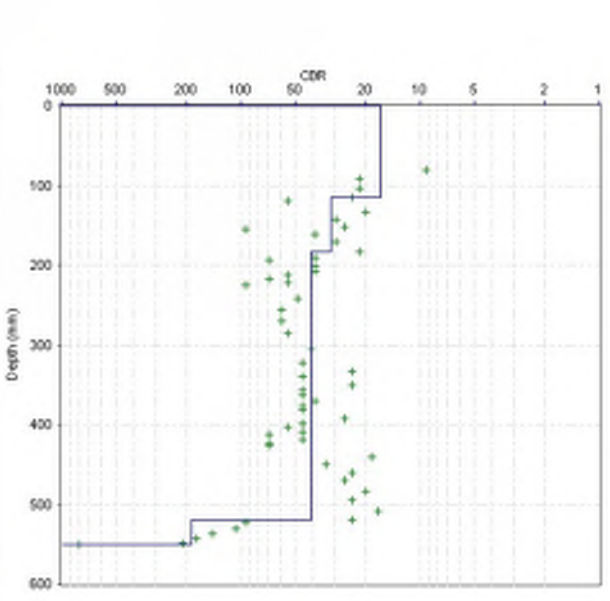
DCP Layer Strength Analysis Report

Project Name: DCP

Chainage (km):	1.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other/53.00m	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	0	Surface Moisture:	Unknown
Test Date:	16/12/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	15.50	17	115	115
2	8.50	31	68	183
3	6.74	40	337	520
4	1.55	190	31	551

CBR Relationship:

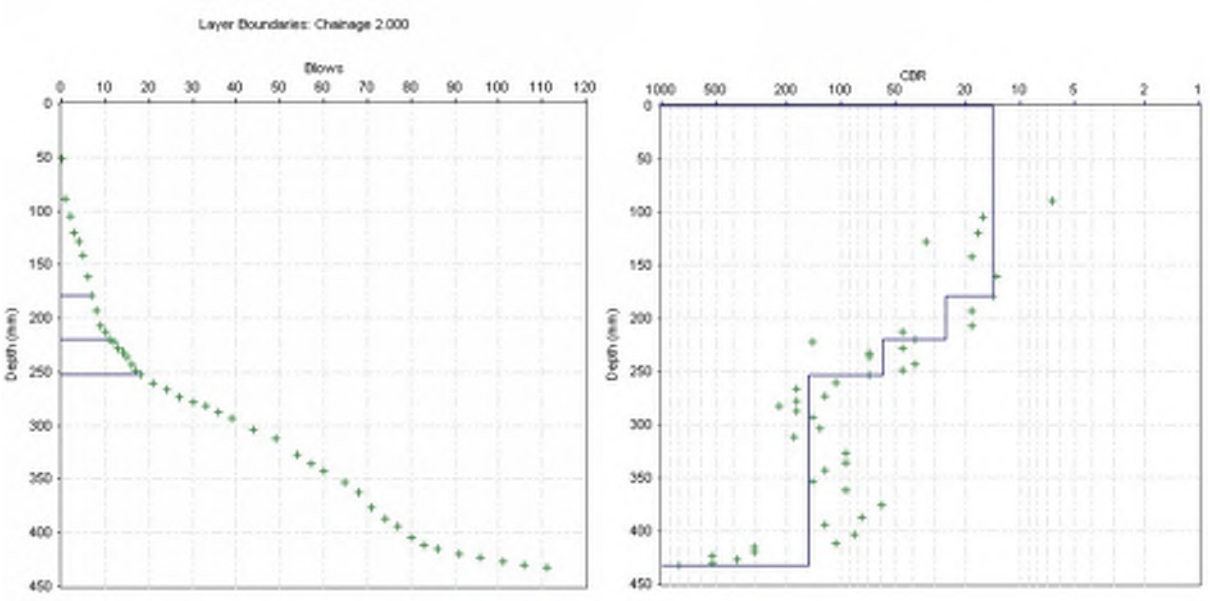
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

DCP Layer Strength Analysis Report

Project Name: DCP

Chainage (km):	2.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other/52.00m	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	0	Surface Moisture:	Unknown
Test Date:	16/12/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart

CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	18.14	14	179	179
2	10.25	26	41	220
3	4.71	59	33	253
4	1.92	151	179	432

CBR Relationship:

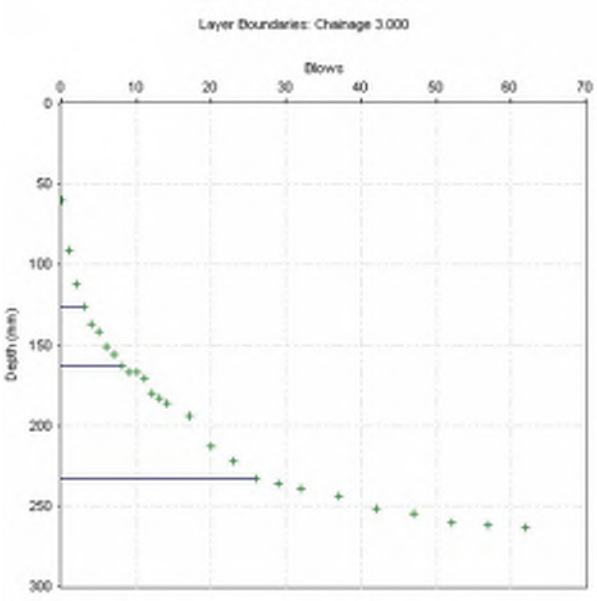
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

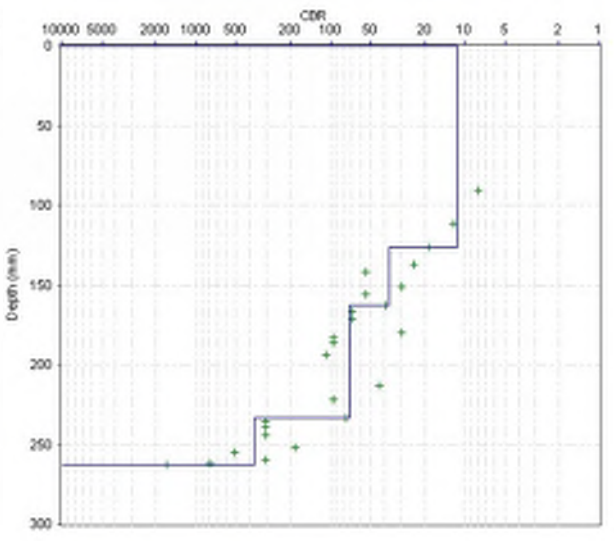
DCP Layer Strength Analysis Report

Project Name: DCP

Chainage (km):	3.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other/60.00m	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	0	Surface Moisture:	Unknown
Test Date:	16/12/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	22.00	12	126	126
2	7.40	36	37	163
3	3.89	72	70	233
4	0.83	366	30	263

CBR Relationship:

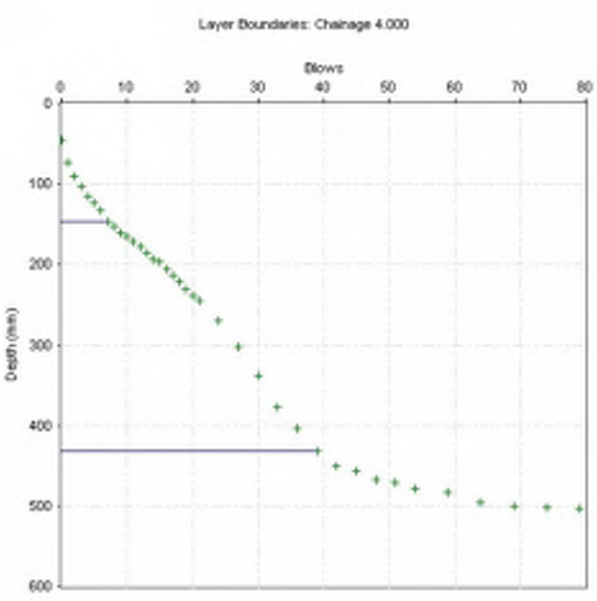
TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

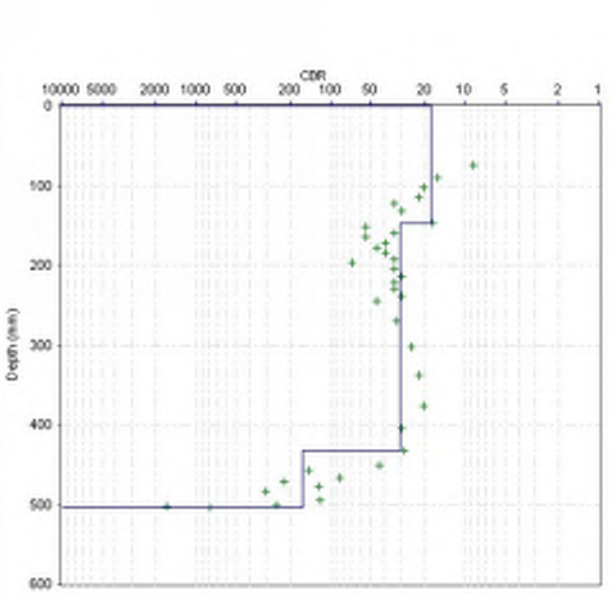
DCP Layer Strength Analysis Report

Project Name: DCP

Chainage (km):	4.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other/45.00m	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	0	Surface Moisture:	Unknown
Test Date:	16/12/2025	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	14.57	18	147	147
2	8.91	30	285	432
3	1.80	162	72	504

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

2 The Long Barn,
Norton Farm, Selborne Road,
Alton, Hampshire GU34 3NB

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groundandwater.co.uk

APPENDIX F: Chemical Laboratory Testing

Ground and Water Ltd
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i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: info-i2analytical@normecgroup.com

Analytical Report Number : 25-054726

Project / Site name:	Land at Milton Place, Gravesend, DA12 2BH	**Samples received on:**	09/10/2025
Your job number:	GWPR6764	**Samples instructed on/ Analysis started on:**	09/10/2025
Your order number:	GWPR6764	**Analysis completed by:**	20/10/2025
Report Issue Number:	1	**Report issued on:**	20/10/2025
Samples Analysed:	5 soil samples		

[redacted]

Signed:

Joanna Biolik
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-054726
Project / Site name: Land at Milton Place, Gravesend, DA12 2BH
Your Order No: GWPR6764

Lab Sample Number				710858	710859	710860	710861	710862
Sample Reference				TP8	TP8	TP9	TP9	TP10
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.80	0.50	1.00	0.20
Date Sampled				01/10/2025	01/10/2025	01/10/2025	01/10/2025	01/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	6.4	9.7	7.8	9.1	9.3
Total mass of sample received	kg	0.1	NONE	1.2	1.2	0.9	1.1	0.7
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KJK	KJK	KJK	KJK	KJK
Analysis completed	N/A	N/A	N/A	15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	Detected	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	Loose Fibres	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8	8.1	8.3	8.1	8.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	23	30	34	62	34
Water Soluble SO_4 16hr extraction (2:1)	mg/l	1.25	MCERTS	11.5	14.9	16.9	30.9	17
Organic Matter (automated)	%	0.1	MCERTS	1.7	1.3	1.2	1.2	1.6
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1	0.7	0.7	0.7	0.9
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.21
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.11
Phenanthrene	mg/kg	0.05	MCERTS	0.12	< 0.05	0.14	< 0.05	1.7
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.21
Fluoranthene	mg/kg	0.05	MCERTS	0.38	< 0.05	0.42	< 0.05	1.9
Pyrene	mg/kg	0.05	MCERTS	0.35	< 0.05	0.36	< 0.05	1.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.21	< 0.05	0.26	< 0.05	0.79
Chrysene	mg/kg	0.05	MCERTS	0.25	< 0.05	0.28	< 0.05	0.84
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.41	< 0.05	0.38	< 0.05	0.95
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.17	< 0.05	< 0.05	< 0.05	0.39
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.29	< 0.05	< 0.05	< 0.05	0.74
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.18	< 0.05	0.17	< 0.05	0.36
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.07
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.2	< 0.05	0.23	< 0.05	0.46
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	2.54	< 0.80	2.24	< 0.80	10.4

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-054726
Project / Site name: Land at Milton Place, Gravesend, DA12 2BH
Your Order No: GWPR6764

Lab Sample Number				710858	710859	710860	710861	710862
Sample Reference				TP8	TP8	TP9	TP9	TP10
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.80	0.50	1.00	0.20
Date Sampled				01/10/2025	01/10/2025	01/10/2025	01/10/2025	01/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	10	7.3	11	11
Boron (water soluble)	mg/kg	0.2	MCERTS	1.8	1.4	0.6	1.9	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.3	0.3	0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	29	18	31	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	21	15	16	17	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	53	17	42	23	44
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	23	14	23	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	45	45	29	46	40
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	68	56	48	70	63
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	-	< 2.0	-	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	-	< 8.0	-	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	-	< 8.0	-	< 8.0
TPHCWG - Aliphatic >EC35 - EC40 $_{EH\_CU\_1D\_AL}$	mg/kg	10	NONE	< 10	-	< 10	-	< 10
TPHCWG - Aliphatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	-	< 10	-	< 10
TPHCWG - Aliphatic >EC5 - EC40 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	-	< 10	-	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	-	< 0.010	-	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.02	MCERTS	< 0.020	-	< 0.020	-	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	-	< 2.0	-	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	-	< 10	-	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	-	< 10	-	< 10
TPHCWG - Aromatic >EC35 - EC40 $_{EH\_CU\_1D\_AR}$	mg/kg	10	NONE	< 10	-	< 10	-	< 10
TPHCWG - Aromatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	-	< 10	-	< 10
TPHCWG - Aromatic >EC5 - EC40 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	-	< 10	-	< 10
TPH Total >EC5 - EC40 $_{EH\_CU+HS\_1D\_TOTAL}$	mg/kg	10	NONE	< 10	-	< 10	-	< 10
VOCs								
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	-	< 8.0	-	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	-	< 5.0	-	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 25-054726
Project / Site name: Land at Milton Place, Gravesend, DA12 2BH

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
710858	TP8	None Supplied	0.2	Brown clay and sand with gravel and vegetation
710859	TP8	None Supplied	0.8	Brown clay and sand
710860	TP9	None Supplied	0.5	Brown sand with gravel and chalk
710861	TP9	None Supplied	1	Brown sand
710862	TP10	None Supplied	0.2	Brown sand with chalk and vegetation

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Analytical Report Number : 25-054726
Project / Site name: Land at Milton Place, Gravesend, DA12 2BH

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS

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Analytical Report Number : 25-054726
Project / Site name: Land at Milton Place, Gravesend, DA12 2BH

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 25-054726
Project / Site name: Land at Milton Place, Gravesend, DA12 2BH

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP8	N/A	S	710858	b	BTEX and/or Volatile organic compounds in soil	L073B	b

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The results included within the report are representative of the samples submitted for analysis.

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

PE7E6-VKPR5-V4IUY

Report is invalid if pages are removed.

Job name

GWPR6764.1

Description/Comments

Project

GWPR6764

Site

Land at Milton Place Gravesend DA12 2BH

Classified by

Name:
Adam Young
Date:
15 Dec 2025 13:14 GMT
Telephone:

Company:
Ground and Water
2 The long Barn, Norton Farm, Selbourne Road,
Alton
GU34 3NB

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	-

Purpose of classification

2 - Material Characterisation

Address of the waste

Land at Milton Place Gravesend **Post Code** DA12 2BH

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment of site.

Description of the specific process, sub-process and/or activity that created the waste

Waste created during the excavation of soils.

Description of the waste

Made Ground.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP8--01102025-0.20		Non Hazardous		3
2	TP8--01102025-0.80		Non Hazardous		5
3	TP9--01102025-0.50		Non Hazardous		7
4	TP9--01102025-1.00		Non Hazardous		9
5	TP10--01102025-0.20		Non Hazardous		11

Related documents

#	Name	Description
1	25-054726_HWOL.hwol	i2 Analytical .hwol file used to populate the Job

Report

Created by: Adam Young

Created date: 15 Dec 2025 13:14 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	13
Appendix B: Rationale for selection of metal species	14
Appendix C: Version	15

Classification of sample: TP8--01102025-0.20

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP8--01102025-0.20
Moisture content:
6.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 6.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<**LOD**
2	monohydric phenols			P1186		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
4	pH			PH		8	pH		8	pH	8pH		
5	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
6	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
7	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<8	µg/kg		<0.008	mg/kg	<0.0000008 %		<**LOD**
8	toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
9	benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
10	acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
11	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
12	anthracene		204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
13	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.21	mg/kg		0.197	mg/kg	0.0000197 %	✓	
14	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.29	mg/kg		0.271	mg/kg	0.0000271 %	✓	
15	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.41	mg/kg		0.384	mg/kg	0.0000384 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.17	mg/kg		0.159	mg/kg	0.0000159 %	✓	
17		benzo[ghi]perylene		205-883-8	191-24-2		0.2	mg/kg		0.187	mg/kg	0.0000187 %	✓	
18		chrysene	601-048-00-0	205-923-4	218-01-9		0.25	mg/kg		0.234	mg/kg	0.0000234 %	✓	
19		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
20		fluoranthene		205-912-4	206-44-0		0.38	mg/kg		0.356	mg/kg	0.0000356 %	✓	
21		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
22		indeno[123-cd]pyrene		205-893-2	193-39-5		0.18	mg/kg		0.168	mg/kg	0.0000168 %	✓	
23		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.12	mg/kg		0.112	mg/kg	0.0000112 %	✓	
25		pyrene		204-927-3	129-00-0		0.35	mg/kg		0.328	mg/kg	0.0000328 %	✓	
26		arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		10	mg/kg		9.36	mg/kg	0.000936 %	✓	
27		boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		1.8	mg/kg	23.173	39.042	mg/kg	0.0039 %	✓	
28		cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.4	mg/kg	1.285	0.481	mg/kg	0.0000374 %	✓	
29		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21	mg/kg	1.126	22.13	mg/kg	0.00221 %	✓	
30		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
31		nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		21	mg/kg	1.579	31.047	mg/kg	0.0031 %	✓	
32		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	53	mg/kg	1.56	77.379	mg/kg	0.00496 %	✓	
33		selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
34		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		45	mg/kg	1.785	75.192	mg/kg	0.00752 %	✓	
35		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		68	mg/kg	2.469	157.166	mg/kg	0.0157 %	✓	
36		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
37		chromium in Cr(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		27	mg/kg	1.462	36.936	mg/kg	0.00369 %	✓	
											Total:	0.0423 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP8--01102025-0.80

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP8--01102025-0.80
Moisture content:
9.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<**LOD**
2	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
4	pH			PH		8.1 pH		8.1 pH	8.1 pH		
5	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
6	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
7	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
8	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
9	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
10	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
11	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
12	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
13	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
14	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
15	fluoranthene		205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
16	fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5									
18		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
19		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
20		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0									
21		arsenic { arsenic }				10	mg/kg		9.03	mg/kg	0.000903 %	✓	
		033-001-00-X	231-148-6	7440-38-2									
22		boron { boron tribromide }				1.4	mg/kg	23.173	29.295	mg/kg	0.00293 %	✓	
		005-003-00-0	233-657-9	10294-33-4									
23		cadmium { cadmium sulfide }			1	0.3	mg/kg	1.285	0.348	mg/kg	0.0000271 %	✓	
		048-010-00-4	215-147-8	1306-23-6									
24		copper { dicopper oxide; copper (I) oxide }				15	mg/kg	1.126	15.25	mg/kg	0.00153 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
25		mercury { mercury }				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
		080-001-00-0	231-106-7	7439-97-6									
26		nickel { nickel dihydroxide }				23	mg/kg	1.579	32.805	mg/kg	0.00328 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
27		lead { lead chromate }			1	17	mg/kg	1.56	23.945	mg/kg	0.00154 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
28		selenium { selenium }				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		034-001-00-2	231-957-4	7782-49-2									
29		vanadium { divanadium pentaoxide; vanadium pentoxide }				45	mg/kg	1.785	72.541	mg/kg	0.00725 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
30		zinc { zinc sulphate }				56	mg/kg	2.469	124.867	mg/kg	0.0125 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
31		chromium in Cr(III) compounds { chromium(III) oxide }				29	mg/kg	1.462	38.274	mg/kg	0.00383 %	✓	
			215-160-9	1308-38-9									
										Total:	0.0338 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP9--01102025-0.50

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP9--01102025-0.50
Moisture content:
7.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 7.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<**LOD**
2	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
4	pH			PH		8.3 pH		8.3 pH	8.3 pH		
5	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
6	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
7	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<8 µg/kg		<0.008 mg/kg	<0.0000008 %		<**LOD**
8	toluene	601-021-00-3	203-625-9	108-88-3		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
9	benzene	601-020-00-8	200-753-7	71-43-2		<5 µg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
10	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
11	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
12	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
13	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.26 mg/kg		0.24 mg/kg	0.000024 %	✓	
14	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
15	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.38 mg/kg		0.35 mg/kg	0.000035 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
17		benzo[ghi]perylene		205-883-8	191-24-2		0.23	mg/kg		0.212	mg/kg	0.0000212 %	✓	
18		chrysene	601-048-00-0	205-923-4	218-01-9		0.28	mg/kg		0.258	mg/kg	0.0000258 %	✓	
19		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
20		fluoranthene		205-912-4	206-44-0		0.42	mg/kg		0.387	mg/kg	0.0000387 %	✓	
21		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
22		indeno[123-cd]pyrene		205-893-2	193-39-5		0.17	mg/kg		0.157	mg/kg	0.0000157 %	✓	
23		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.14	mg/kg		0.129	mg/kg	0.0000129 %	✓	
25		pyrene		204-927-3	129-00-0		0.36	mg/kg		0.332	mg/kg	0.0000332 %	✓	
26		arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		7.3	mg/kg		6.731	mg/kg	0.000673 %	✓	
27		boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		0.6	mg/kg	23.173	12.819	mg/kg	0.00128 %	✓	
28		cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.3	mg/kg	1.285	0.355	mg/kg	0.0000277 %	✓	
29		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16	mg/kg	1.126	16.609	mg/kg	0.00166 %	✓	
30		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
31		nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		14	mg/kg	1.579	20.388	mg/kg	0.00204 %	✓	
32		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	42	mg/kg	1.56	60.402	mg/kg	0.00387 %	✓	
33		selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
34		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		29	mg/kg	1.785	47.732	mg/kg	0.00477 %	✓	
35		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		48	mg/kg	2.469	109.281	mg/kg	0.0109 %	✓	
36		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
37		chromium in Cr(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		18	mg/kg	1.462	24.256	mg/kg	0.00243 %	✓	
											Total:	0.0279 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP9--01102025-1.00

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP9--01102025-1.00
Moisture content:
9.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.1% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<**LOD**
2	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
4	pH			PH		8.1 pH		8.1 pH	8.1 pH		
5	acenaphthylene		205-917-1	208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
6	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
7	anthracene		204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
8	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
9	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
10	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
11	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
12	benzo[ghi]perylene		205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
13	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
14	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
15	fluoranthene		205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
16	fluorene		201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5									
18		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
19		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
20		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0									
21		arsenic { arsenic }				11	mg/kg		9.999	mg/kg	0.001 %	✓	
		033-001-00-X	231-148-6	7440-38-2									
22		boron { boron tribromide }				1.9	mg/kg	23.173	40.022	mg/kg	0.004 %	✓	
		005-003-00-0	233-657-9	10294-33-4									
23		cadmium { cadmium sulfide }			1	0.2	mg/kg	1.285	0.234	mg/kg	0.0000182 %	✓	
		048-010-00-4	215-147-8	1306-23-6									
24		copper { dicopper oxide; copper (I) oxide }				17	mg/kg	1.126	17.398	mg/kg	0.00174 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
25		mercury { mercury }				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
		080-001-00-0	231-106-7	7439-97-6									
26		nickel { nickel dihydroxide }				23	mg/kg	1.579	33.023	mg/kg	0.0033 %	✓	
		028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
27		lead { lead chromate }			1	23	mg/kg	1.56	32.611	mg/kg	0.00209 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
28		selenium { selenium }				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		034-001-00-2	231-957-4	7782-49-2									
29		vanadium { divanadium pentaoxide; vanadium pentoxide }				46	mg/kg	1.785	74.646	mg/kg	0.00746 %	✓	
		023-001-00-8	215-239-8	1314-62-1									
30		zinc { zinc sulphate }				70	mg/kg	2.469	157.121	mg/kg	0.0157 %	✓	
		030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
31		chromium in Cr(III) compounds { chromium(III) oxide }				31	mg/kg	1.462	41.185	mg/kg	0.00412 %	✓	
			215-160-9	1308-38-9									
										Total:	0.0394 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP10--01102025-0.20

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP10--01102025-0.20
Moisture content:
9.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<**LOD**
2	monohydric phenols			P1186		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
4	pH			PH		8.3	pH		8.3	pH	8.3 pH		
5	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
6	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
7	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<8	µg/kg		<0.008	mg/kg	<0.0000008 %		<**LOD**
8	toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
9	benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
10	acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
11	acenaphthene		201-469-6	83-32-9		0.21	mg/kg		0.19	mg/kg	0.000019 %	✓	
12	anthracene		204-371-1	120-12-7		0.21	mg/kg		0.19	mg/kg	0.000019 %	✓	
13	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.79	mg/kg		0.717	mg/kg	0.0000717 %	✓	
14	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.74	mg/kg		0.671	mg/kg	0.0000671 %	✓	
15	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.95	mg/kg		0.862	mg/kg	0.0000862 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.39	mg/kg		0.354	mg/kg	0.0000354 %	✓	
17		benzo[ghi]perylene		205-883-8	191-24-2		0.46	mg/kg		0.417	mg/kg	0.0000417 %	✓	
18		chrysene	601-048-00-0	205-923-4	218-01-9		0.84	mg/kg		0.762	mg/kg	0.0000762 %	✓	
19		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.07	mg/kg		0.0635	mg/kg	0.00000635 %	✓	
20		fluoranthene		205-912-4	206-44-0		1.9	mg/kg		1.723	mg/kg	0.000172 %	✓	
21		fluorene		201-695-5	86-73-7		0.11	mg/kg		0.0998	mg/kg	0.00000998 %	✓	
22		indeno[123-cd]pyrene		205-893-2	193-39-5		0.36	mg/kg		0.327	mg/kg	0.0000327 %	✓	
23		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		1.7	mg/kg		1.542	mg/kg	0.000154 %	✓	
25		pyrene		204-927-3	129-00-0		1.6	mg/kg		1.451	mg/kg	0.000145 %	✓	
26		arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		11	mg/kg		9.977	mg/kg	0.000998 %	✓	
27		boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		1.5	mg/kg	23.173	31.527	mg/kg	0.00315 %	✓	
28		cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	<0.2	mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<**LOD**
29		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20	mg/kg	1.126	20.424	mg/kg	0.00204 %	✓	
30		mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
31		nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		19	mg/kg	1.579	27.22	mg/kg	0.00272 %	✓	
32		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	44	mg/kg	1.56	62.249	mg/kg	0.00399 %	✓	
33		selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
34		vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		40	mg/kg	1.785	64.767	mg/kg	0.00648 %	✓	
35		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		63	mg/kg	2.469	141.098	mg/kg	0.0141 %	✓	
36		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
37		chromium in Cr(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		26	mg/kg	1.462	34.466	mg/kg	0.00345 %	✓	
											Total:	0.0379 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non GB MCL determinands

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from:: WM3, Table C12.2

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

ethylbenzene (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from:: IARC Group 2B (77) 2000

acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

indeno[123-cd]pyrene (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

arsenic (EC Number: 231-148-6, CAS Number: 7440-38-2)

GB MCL index number: 033-001-00-X
Description/Comments: Worst Case: IARC considers arsenic Group 1; Carcinogenic to humans
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from:: IARC Group 1 (23, Sup 7, 100C) 2012

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

chromium(III) oxide (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from ECHA's C&L inventory database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 30 Apr 2020
Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319

Appendix B: Rationale for selection of metal species

chromium in Cr(VI) compounds {chromium(VI) oxide}

Most likely worst case.

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Most likely worst case.

arsenic {arsenic}

Most likely worst case.

boron {boron tribromide}

Most likely worst case.

cadmium {cadmium sulfide}

Most likely worst case.

copper {dicopper oxide; copper (I) oxide}

Most likely worst case.

mercury {mercury}

Most likely worst case.

nickel {nickel dihydroxide}

Most likely worst case.

lead {lead chromate}

Most likely worst case.

selenium {selenium}

Most likely worst case.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Most likely worst case.

zinc {zinc sulphate}

Most likely worst case.

chromium in Cr(III) compounds {chromium(III) oxide}

Most likely worst case.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.345.6921.12504 (11 Dec 2025)
HazWasteOnline Database: 2025.345.6921.12504 (11 Dec 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025
GB MCL List v7.0 - version 7.0 of 23rd September 2025

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

267TK-8Y2H8-O24NT

Report is invalid if pages are removed.

Job name

GWPR6764.2

Description/Comments

Project

GWPR6764.2

Site

Land at Milton Place Gravesend DA12 2BH

Classified by

Name:
Adam Young
Date:
15 Dec 2025 13:16 GMT
Telephone:

Company:
Ground and Water
2 The long Barn, Norton Farm, Selbourne Road,
Alton
GU34 3NB

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	-

Purpose of classification

2 - Material Characterisation

Address of the waste

Land at Milton Place Gravesend **Post Code** DA12 2BH

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment of site.

Description of the specific process, sub-process and/or activity that created the waste

Waste created during the excavation of soils.

Description of the waste

Made Ground.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH2--27112025-0.20		Non Hazardous		3
2	TP4--27112025-1.50		Non Hazardous		5
3	TP5--27112025-2.80		Non Hazardous		7
4	TP6--27112025-0.50		Non Hazardous		9

Related documents

#	Name	Description
1	25-065582_HWOL.hwol	i2 Analytical .hwol file used to populate the Job

Report

Created by: Adam Young

Created date: 15 Dec 2025 13:16 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	11
Appendix B: Rationale for selection of metal species	12
Appendix C: Version	13

Classification of sample: BH2--27112025-0.20

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH2--27112025-0.20
Moisture content:
12%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<**LOD**
2	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
4	pH			PH		8.3 pH		8.3 pH	8.3 pH		
5	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		0.6 mg/kg	23.173	12.235 mg/kg	0.00122 %	✓	
6	arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		12 mg/kg		10.56 mg/kg	0.00106 %	✓	
7	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.2 mg/kg	1.285	0.226 mg/kg	0.0000176 %	✓	
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12 mg/kg	1.126	11.889 mg/kg	0.00119 %	✓	
9	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
10	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		10 mg/kg	1.579	13.9 mg/kg	0.00139 %	✓	
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	27.453 mg/kg	0.00176 %	✓	
12	selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		25 mg/kg	1.785	39.274 mg/kg	0.00393 %	✓	
14	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		110 mg/kg	2.469	239.028 mg/kg	0.0239 %	✓	
15	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.48 mg/kg		0.422 mg/kg	0.0000422 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.55	mg/kg		0.484	mg/kg	0.0000484 %	✓	
17		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.73	mg/kg		0.642	mg/kg	0.0000642 %	✓	
18		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.34	mg/kg		0.299	mg/kg	0.0000299 %	✓	
19		benzo[ghi]perylene		205-883-8	191-24-2		0.43	mg/kg		0.378	mg/kg	0.0000378 %	✓	
20		chrysene	601-048-00-0	205-923-4	218-01-9		0.56	mg/kg		0.493	mg/kg	0.0000493 %	✓	
21		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
22		fluoranthene		205-912-4	206-44-0		1	mg/kg		0.88	mg/kg	0.000088 %	✓	
23		fluorene		201-695-5	86-73-7		0.05	mg/kg		0.044	mg/kg	0.0000044 %	✓	
24		indeno[123-cd]pyrene		205-893-2	193-39-5		0.34	mg/kg		0.299	mg/kg	0.0000299 %	✓	
25		naphthalene	601-052-00-2	202-049-5	91-20-3		0.11	mg/kg		0.0968	mg/kg	0.00000968 %	✓	
26		phenanthrene		201-581-5	85-01-8		0.74	mg/kg		0.651	mg/kg	0.0000651 %	✓	
27		pyrene		204-927-3	129-00-0		0.93	mg/kg		0.818	mg/kg	0.0000818 %	✓	
28		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
29		acenaphthene		201-469-6	83-32-9		0.07	mg/kg		0.0616	mg/kg	0.00000616 %	✓	
30		anthracene		204-371-1	120-12-7		0.14	mg/kg		0.123	mg/kg	0.0000123 %	✓	
31		chromium in Cr(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		12	mg/kg	1.462	15.434	mg/kg	0.00154 %	✓	
											Total:	0.0366 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP4--27112025-1.50

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP4--27112025-1.50
Moisture content:
19%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<**LOD**
2	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
4	pH			PH		9.8 pH		9.8 pH	9.8 pH		
5	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		0.8 mg/kg	23.173	15.016 mg/kg	0.0015 %	✓	
6	arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		8.7 mg/kg		7.047 mg/kg	0.000705 %	✓	
7	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.2 mg/kg	1.285	0.208 mg/kg	0.0000162 %	✓	
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21 mg/kg	1.126	19.151 mg/kg	0.00192 %	✓	
9	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
10	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		22 mg/kg	1.579	28.147 mg/kg	0.00281 %	✓	
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	55 mg/kg	1.56	69.49 mg/kg	0.00445 %	✓	
12	selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		41 mg/kg	1.785	59.286 mg/kg	0.00593 %	✓	
14	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		69 mg/kg	2.469	138.009 mg/kg	0.0138 %	✓	
15	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.34 mg/kg		0.275 mg/kg	0.0000275 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
16		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.37	mg/kg		0.3	mg/kg	0.00003 %	✓	
17		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.44	mg/kg		0.356	mg/kg	0.0000356 %	✓	
18		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.21	mg/kg		0.17	mg/kg	0.000017 %	✓	
19		benzo[ghi]perylene		205-883-8	191-24-2		0.28	mg/kg		0.227	mg/kg	0.0000227 %	✓	
20		chrysene	601-048-00-0	205-923-4	218-01-9		0.33	mg/kg		0.267	mg/kg	0.0000267 %	✓	
21		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
22		fluoranthene		205-912-4	206-44-0		0.62	mg/kg		0.502	mg/kg	0.0000502 %	✓	
23		fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
24		indeno[123-cd]pyrene		205-893-2	193-39-5		0.23	mg/kg		0.186	mg/kg	0.0000186 %	✓	
25		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
26		phenanthrene		201-581-5	85-01-8		0.32	mg/kg		0.259	mg/kg	0.0000259 %	✓	
27		pyrene		204-927-3	129-00-0		0.58	mg/kg		0.47	mg/kg	0.000047 %	✓	
28		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
29		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
30		anthracene		204-371-1	120-12-7		0.08	mg/kg		0.0648	mg/kg	0.00000648 %	✓	
31		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
32		benzene	601-020-00-8	200-753-7	71-43-2		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
33		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
34		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
35		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<8	µg/kg		<0.008	mg/kg	<0.0000008 %		<LOD
36		TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
37		chromium in Cr(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		26	mg/kg	1.462	30.78	mg/kg	0.00308 %	✓	
											Total:	0.0345 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP5--27112025-2.80

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP5--27112025-2.80
Moisture content:
21%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 21% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<**LOD**
2	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
3	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
4	pH			PH		10.2 pH		10.2 pH	10.2 pH		
5	boron { boron tribromide }	005-003-00-0	233-657-9	10294-33-4		0.3 mg/kg	23.173	5.492 mg/kg	0.000549 %	✓	
6	arsenic { arsenic }	033-001-00-X	231-148-6	7440-38-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
7	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.2 mg/kg	1.285	0.203 mg/kg	0.0000158 %	✓	
8	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9 mg/kg	1.126	8.005 mg/kg	0.000801 %	✓	
9	mercury { mercury }	080-001-00-0	231-106-7	7439-97-6		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<**LOD**
10	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		4.1 mg/kg	1.579	5.116 mg/kg	0.000512 %	✓	
11	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	1.1 mg/kg	1.56	1.355 mg/kg	0.0000869 %	✓	
12	selenium { selenium }	034-001-00-2	231-957-4	7782-49-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
13	vanadium { divanadium pentaoxide; vanadium pentoxide }	023-001-00-8	215-239-8	1314-62-1		5.2 mg/kg	1.785	7.334 mg/kg	0.000733 %	✓	
14	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		15 mg/kg	2.469	29.261 mg/kg	0.00293 %	✓	
15	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		benzo[a]pyrene; benzo[def]chrysene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
17		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
18		benzo[k]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
19		benzo[ghi]perylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-883-8	191-24-2									
20		chrysene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
21		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
22		fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-912-4	206-44-0									
23		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
24		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-893-2	193-39-5									
25		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
26		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-581-5	85-01-8									
27		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-927-3	129-00-0									
28		acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-917-1	208-96-8									
29		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
30		anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-371-1	120-12-7									
31		toluene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
32		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
33		ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
34		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
35		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<8	µg/kg		<0.008	mg/kg	<0.0000008 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
36		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
37		chromium in Cr(III) compounds { chromium(III) oxide }				2.2	mg/kg	1.462	2.54	mg/kg	0.000254 %	✓	
			215-160-9	1308-38-9									
										Total:	0.00588 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP6--27112025-0.50

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP6--27112025-0.50
Moisture content:
15%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.4	mg/kg		0.34	mg/kg	0.000034 %	✓	
2		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.56	mg/kg		0.476	mg/kg	0.0000476 %	✓	
3		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.67	mg/kg		0.57	mg/kg	0.000057 %	✓	
4		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.3	mg/kg		0.255	mg/kg	0.0000255 %	✓	
5	●	benzo[ghi]perylene		205-883-8	191-24-2		0.45	mg/kg		0.383	mg/kg	0.0000383 %	✓	
6		chrysene	601-048-00-0	205-923-4	218-01-9		0.5	mg/kg		0.425	mg/kg	0.0000425 %	✓	
7		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.06	mg/kg		0.051	mg/kg	0.0000051 %	✓	
8	●	fluoranthene		205-912-4	206-44-0		0.72	mg/kg		0.612	mg/kg	0.0000612 %	✓	
9	●	fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
10	●	indeno[123-cd]pyrene		205-893-2	193-39-5		0.34	mg/kg		0.289	mg/kg	0.0000289 %	✓	
11		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
12	●	phenanthrene		201-581-5	85-01-8		0.2	mg/kg		0.17	mg/kg	0.000017 %	✓	
13	●	pyrene		204-927-3	129-00-0		0.65	mg/kg		0.553	mg/kg	0.0000553 %	✓	
14	●	acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
15	●	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
16	●	anthracene		204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
17		toluene	601-021-00-3	203-625-9	108-88-3		<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18		benzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
19	●	ethylbenzene				<5	µg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
20		o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<8	µg/kg		<0.008	mg/kg	<0.0000008 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
21	●	coronene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			205-881-7	191-07-1									
22	●	polychlorobiphenyls; PCB				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.00041 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
<LOD	Below limit of detection

Appendix A: Classifier defined and non GB MCL determinands

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from:: WM3, Table C12.2

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

arsenic (EC Number: 231-148-6, CAS Number: 7440-38-2)

GB MCL index number: 033-001-00-X
Description/Comments: Worst Case: IARC considers arsenic Group 1; Carcinogenic to humans
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from:: IARC Group 1 (23, Sup 7, 100C) 2012

benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

indeno[123-cd]pyrene (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

chromium(III) oxide (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from ECHA's C&L inventory database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 30 Apr 2020
Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319

ethylbenzene (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from:: IARC Group 2B (77) 2000

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

coronene (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

polychlorobiphenyls; PCB (EC Number: 215-648-1, CAS Number: 1336-36-3)

GB MCL index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from:: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

chromium in Cr(VI) compounds {chromium(VI) oxide}

Most likely worst case.

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Most likely worst case.

boron {boron tribromide}

Most likely worst case.

arsenic {arsenic}

Most likely worst case.

cadmium {cadmium sulfide}

Most likely worst case.

copper {dicopper oxide; copper (I) oxide}

Most likely worst case.

mercury {mercury}

Most likely worst case.

nickel {nickel dihydroxide}

Most likely worst case.

lead {lead chromate}

Most likely worst case.

selenium {selenium}

Most likely worst case.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Most likely worst case.

zinc {zinc sulphate}

Most likely worst case.

chromium in Cr(III) compounds {chromium(III) oxide}

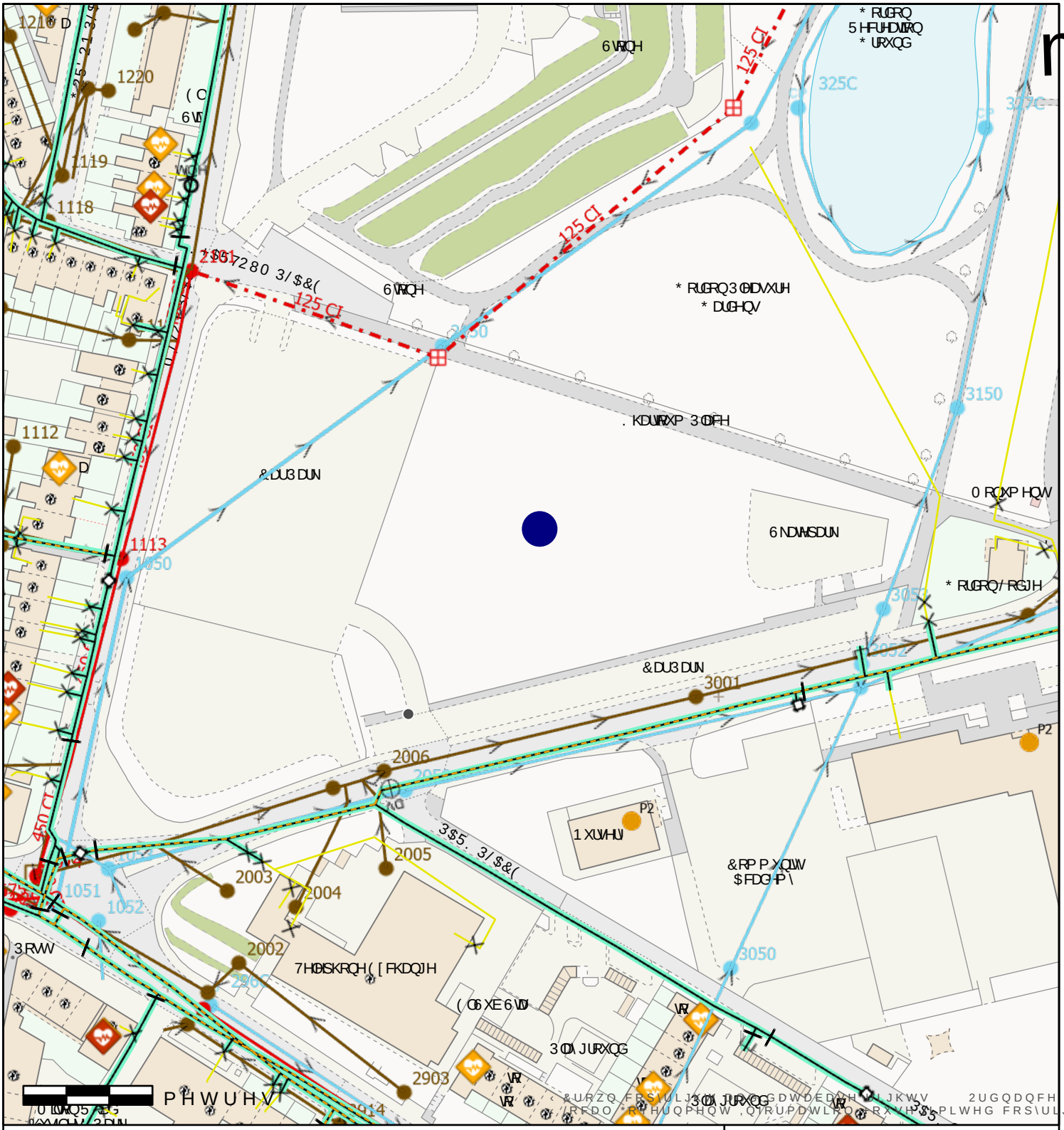
Most likely worst case.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.345.6921.12504 (11 Dec 2025)
HazWasteOnline Database: 2025.345.6921.12504 (11 Dec 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025
GB MCL List v7.0 - version 7.0 of 23rd September 2025

APPENDIX D – SOUTHERN WATER RECORDS



Boundary Box	Break Pressure Tank	Capped End	Hydrant
Boundary Box	BPT Break Pressure Tank	Capped End	Emptying Plug · Fire Hydrant · WOH Washout Hydrant

Pressure Monitoring	Service Reservoir	Meter	Valve - Controllable
Logger	Covered · Tower	Meter	Open Valve · Closed Valve · Stop Tap

Site	Valve - Flow
Abstraction Point · Supply Works	AV Air Valve · NRV Non-Return Valve · WO Washout Empty Valve
Booster Station · Transfer Station	**Valve - Pressure** · **Pipe Bridge**
Surface Reservoir · Underground Source	PRV Pressure Reducing Valve · PSV Pressure Sustaining Valve · Pipe Bridge

Water Pipe	Water Area
Communication · Trunk · Decommissioned	Water Supply Zone · District Meter Area
Distribution · Raw · Discolouration	
Non-Potable · Private	

0DS 7LWOH 6: 3ULQW

3ULQWHG %\ .HOO\ 'RQDOGVRQ

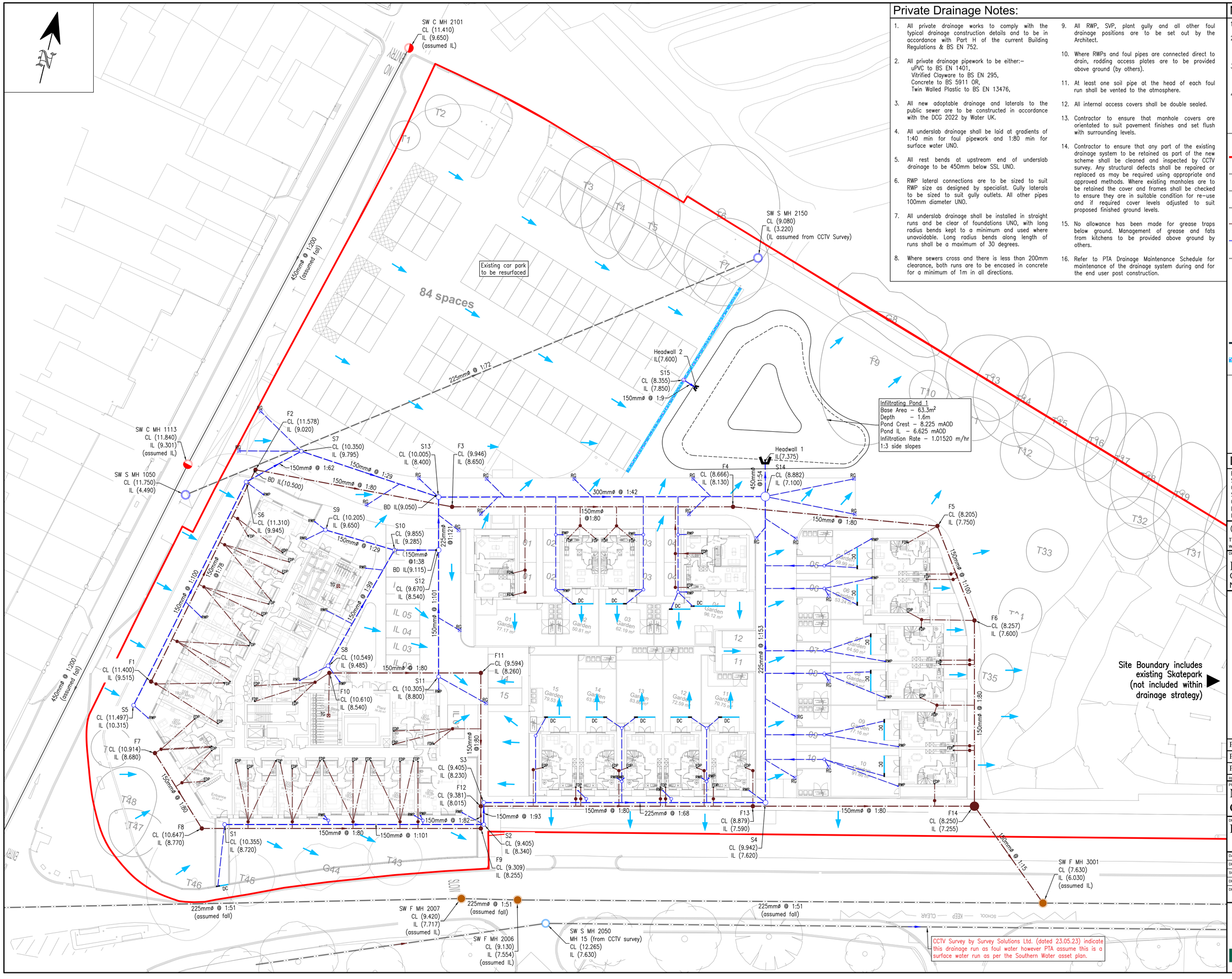
'DWH 3ULQWHG

0DS 6FDOH

7KH LQIRUPDWLRQ SURYLGHG LV EHOLHYHG SURYLGHG RQ DQ µDV LV¶ EDVLV DQG ZLWKRXW FRQGLWLRQ H[SUHVV RU LPSOLHG VWDWXWRU\ RU ILWQHVV IRU SXUSRVH $FFXUDF\ VKRXOG DOZD\V EH GHWHUPLQHG RQ VLWH

from Southern Water

APPENDIX E - PTA APPROVED DRAINAGE STRATEGY



Private Drainage Notes:

1. All private drainage works to comply with the typical drainage construction details and to be in accordance with Part H of the current Building Regulations & BS EN 752.
2. All private drainage pipework to be either:–
   uPVC to BS EN 1401,
   Vitrified Clayware to BS EN 295,
   Concrete to BS 5911 OR,
   Twin Walled Plastic to BS EN 13476,
3. All new adoptable drainage and laterals to the public sewer are to be constructed in accordance with the DCG 2022 by Water UK.
4. All underslab drainage shall be laid at gradients of 1:40 min for foul pipework and 1:80 min for surface water UNO.
5. All rest bends at upstream end of underslab drainage to be 450mm below SSL UNO.
6. RWP lateral connections are to be sized to suit RWP size as designed by specialist. Gully laterals to be sized to suit gully outlets. All other pipes 100mm diameter UNO.
7. All underslab drainage shall be installed in straight runs and be clear of foundations UNO, with long radius bends kept to a minimum and used where unavoidable. Long radius bends along length of runs shall be a maximum of 30 degrees.
8. Where sewers cross and there is less than 200mm clearance, both runs are to be encased in concrete for a minimum of 1m in all directions.
9. All RWP, SVP, plant gully and all other foul drainage positions are to be set out by the Architect.
10. Where RWPs and foul pipes are connected direct to drain, rodding access plates are to be provided above ground (by others).
11. At least one soil pipe at the head of each foul run shall be vented to the atmosphere.
12. All internal access covers shall be double sealed.
13. Contractor to ensure that manhole covers are orientated to suit pavement finishes and set flush with surrounding levels.
14. Contractor to ensure that any part of the existing drainage system to be retained as part of the new scheme shall be cleaned and inspected by CCTV survey. Any structural defects shall be repaired or replaced as may be required using appropriate and approved methods. Where existing manholes are to be retained the cover and frames shall be checked to ensure they are in suitable condition for re–use and if required cover levels adjusted to suit proposed finished ground levels.
15. No allowance has been made for grease traps below ground. Management of grease and fats from kitchens to be provided above ground by others.
16. Refer to PTA Drainage Maintenance Schedule for maintenance of the drainage system during and for the end user post construction.

Notes:

1. Do not scale from this drawing.
2. In case of any discrepancies in drawings, details or bills, refer to engineers for clarification: unilateral decisions by the Contractor will not be accepted.
3. This drawing is to be read in conjunction with all related Architects, Consultants & Sub–Contractors drawings and specifications.
4. The Contractor is advised that all design drawings and information are to be read concurrently and any discrepancies or omissions reported directly to PTA's Civil Engineering Department.

Key:

- Site Boundary
- Existing Public Foul Water Drainage
- Existing Public Storm Water Drainage
- Existing Public Combined Drainage
- Proposed Private Foul Water Drainage
- Proposed Private Surface Water Drainage
- Existing Private Storm Water Drainage
- RG Road Gully with 150mmø Outlet
- TG Trapped Gully
- RWP• FDP• Rain Water Pipe & Foul Drain Point
- Exceedance Route
- SU DC DC – Drainage Channel with Sump Unit
- Filter Drain with Perforated Distribution Pipe Laid at Base

Drainage Abbreviations:

F	=	Foul Water
S	=	Surface Water
C	=	Combined Water
SW	=	Southern Water
CL	=	Cover Level in mAOD
IL	=	Invert Level in mAOD
USIL	=	Upstream Invert level for lateral pipe in mAOD

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DRAWING STATUS / PURPOSE OF ISSUE
PRELIMINARY
COMMENT/COSTING/APPROVAL
NOT FOR CONSTRUCTION

ISO 19650 STATUS CODE: S3

REV	DESCRIPTION	BY	DATE	CHKD
P03	General Updates	DH	16.04.25	AH
P02	General Updates	DH	21.02.25	AH
P01	First Issue	ADC	28.11.24	AH

PROJECT TITLE
Milton Place, Ordnance Road, Gravesend

DRAWING TITLE
Proposed Drainage Layout

DATE	Nov 24
DRAWN	ADC
SCALE	1:250
DRG SIZE	A1

This drawing is issued only for the purposes described in the drawing status box.

PTA PROJ No: 10109
REVISION: P03
DRAWING No: 10109-PTA-XX-XX-DR-C-9300

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www.ptaconsult.co.uk

APPENDIX F – IESIS CAUSEWAY FLOW HYDRAULIC CALCULATIONS

Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	1.200
Return Period (years)	2	Maximum Rainfall (mm/hr)	999.9	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	Enforce best practice design rules	✓
CV	0.750	Connection Type	Level Soffits		
Time of Entry (mins)	5.00	Minimum Backdrop Height (m)	1.000		

Adoptable Manhole Type

Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)
374	1200	499	1350	749	1500	900	1800

>900 Link+900 mm

Max Depth (m)	Diameter (mm)	Max Depth (m)	Diameter (mm)
1.500	1050	99.999	1200

Circular_Default Sewer Type Link Type

Template	Freeform Carrier	Barrels	1	Follow Ground	x
Shape	Circular	Auto Increment (mm)	75		

Available Diameters (mm)

100 | 150

Nodes

	Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
✓	1	0.060	5.00	11.347	Manhole	Adoptable	1200	565205.670	174107.107	1.997	9.350
✓	2	0.060	5.00	9.716	Manhole	Adoptable	1200	565238.812	174081.477	1.496	8.220
✓	3	0.030	5.00	9.933	Manhole	Adoptable	1200	565234.438	174099.026	1.833	8.100
✓	4	0.030	5.00	10.059	Manhole	Adoptable	1350	565232.352	174107.392	2.009	8.050
✓	5	0.040	5.00	10.600	Manhole	Adoptable	450	565214.171	174050.936	0.800	9.800
✓	6	0.030	5.00	9.650	Manhole	Adoptable	450	565248.123	174059.405	0.750	8.900

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Nodes

	Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
✓	7	0.030	5.00	9.450	Manhole	Adoptable	450	565250.170	174064.243	0.600	8.850
✓	8	0.030	5.00	8.700	Manhole	Adoptable	450	565291.658	174074.141	1.300	7.400
✓	9	0.030	5.00	8.645	Manhole	Adoptable	1200	565289.927	174084.606	1.570	7.075
✓	10	0.010	5.00	8.100	Manhole	Adoptable	450	565318.935	174084.425	0.600	7.500
✓	11	0.030	5.00	8.200	Manhole	Adoptable	450	565313.462	174106.309	0.900	7.300
✓	12	0.030	5.00	8.050	Manhole	Adoptable	450	565301.642	174124.139	0.975	7.075
✓	13	0.030	5.00	8.431	Manhole	Adoptable	1350	565281.211	174119.574	1.705	6.726
✓	CP.1		5.00	9.000	Manhole	Adoptable	500	565261.165	174123.633	1.350	7.650
✓	CP.3	0.100	5.00	8.900	Manhole	Adoptable	500	565263.804	174131.388	1.500	7.400
✓	15	0.105	5.00	8.600	Manhole	Adoptable	600	565268.235	174130.922	1.500	7.100
✓	14			8.600	Manhole	Adoptable	600	565279.862	174124.983	1.888	6.712

Links

	Name	US Node	DS Node	Length (m)	ks (mm) / n	Velocity Equation	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)
?	1.000	1	4	26.684	0.600	Colebrook-White	9.350	8.050	1.300	20.5	300	Circular_Default Sewer Type	5.13	48.7
?	2.000	2	3	18.086	0.600	Colebrook-White	8.220	8.100	0.120	150.7	300	Circular_Default Sewer Type	5.24	48.2
✓	2.001	3	4	8.622	0.600	Colebrook-White	8.100	8.050	0.050	172.4	300	Circular_Default Sewer Type	5.36	47.8
?	1.001	4	13	50.355	0.600	Colebrook-White	8.050	6.900	1.150	43.8	375	Circular_Default Sewer Type	5.66	46.5
?	3.000	5	6	34.992	0.600	Colebrook-White	9.800	8.900	0.900	38.9	150	Circular_Default Sewer Type	5.36	47.7
?	3.001	6	7	5.253	0.600	Colebrook-White	8.900	8.850	0.050	105.1	225	Circular_Default Sewer Type	5.43	47.5

DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)	Notes
4	3.485	246.4	7.9	1.697	1.709	1.697	1.762	0.060	0.0	37	1.620	Velocity is more than 3 m/s
3	1.278	90.3	7.8	1.196	1.533	1.196	1.533	0.060	0.0	59	0.793	Upstream Depth is less than the specified minimum
4	1.194	84.4	11.7	1.533	1.709	1.533	1.709	0.090	0.0	75	0.844	
13	2.744	303.1	22.7	1.634	1.156	1.156	1.634	0.180	0.0	68	1.633	Downstream Depth is less than the specified minimum
6	1.619	28.6	5.2	0.650	0.600	0.600	0.650	0.040	0.0	43	1.231	Upstream Depth is less than the specified minimum | Downstream Depth is less than the s
7	1.275	50.7	9.0	0.525	0.375	0.375	0.525	0.070	0.0	64	0.965	Upstream Depth is less than the specified minimum | Downstream Depth is less than the s

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Links

	Name	US Node	DS Node	Length (m)	ks (mm) / n	Velocity Equation	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)
?	3.002	7	8	42.652	0.600	Colebrook-White	8.850	7.400	1.450	29.4	225	Circular_Default Sewer Type	5.72	46.3
?	3.003	8	9	10.607	0.600	Colebrook-White	7.400	7.150	0.250	42.4	225	Circular_Default Sewer Type	5.81	45.9
✓	3.004	9	13	36.038	0.600	Colebrook-White	7.075	6.876	0.199	181.1	300	Circular_Default Sewer Type	6.33	44.1
?	4.000	10	11	22.558	0.600	Colebrook-White	7.500	7.300	0.200	112.8	150	Circular_Default Sewer Type	5.40	47.6
?	4.001	11	12	21.392	0.600	Colebrook-White	7.300	7.150	0.150	142.6	150	Circular_Default Sewer Type	5.82	45.9
?	4.002	12	13	20.935	0.600	Colebrook-White	7.075	6.951	0.124	168.8	225	Circular_Default Sewer Type	6.17	44.6
✓	1.002	13	14	5.575	0.600	Colebrook-White	6.726	6.712	0.014	398.2	450	Circular_Default Sewer Type	6.42	43.8
✓	5.000	CP.1	CP.3	8.192	0.600	Colebrook-White	7.650	7.550	0.100	81.9	150	Circular_Default Sewer Type	5.12	48.7
?	5.001	CP.3	15	4.455	0.600	Colebrook-White	7.400	7.100	0.300	14.9	300	Circular_Default Sewer Type	5.14	48.6
✓	5.002	15	14	13.056	0.600	Colebrook-White	7.100	7.046	0.054	241.8	300	Circular_Default Sewer Type	5.36	47.8

/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)	Notes
	12.5	0.375	1.075	0.375	1.075	0.100	0.0	55	1.691	Upstream Depth is less than the specified minimum | Downstream Depth is less than the specified minimum
	16.2	1.075	1.270	1.075	1.270	0.130	0.0	68	1.582	Upstream Depth is less than the specified minimum
	19.1	1.270	1.255	1.155	1.270	0.160	0.0	98	0.954	Fall increased to remove backdrop
	1.3	0.450	0.750	0.450	0.750	0.010	0.0	28	0.563	Velocity is less than the specified minimum | Upstream Depth is less than the specified minimum | Downstream
	5.0	0.750	0.750	0.750	0.750	0.040	0.0	60	0.758	Velocity is less than the specified minimum | Upstream Depth is less than the specified minimum | Downstream
	8.5	0.750	1.255	0.750	1.255	0.070	0.0	70	0.798	Upstream Depth is less than the specified minimum
	52.2	1.255	1.438	1.255	1.462	0.440	0.0	176	0.909	
	0.0	1.200	1.200	1.200	1.200	0.000	0.0	0	0.000	
	13.2	1.200	1.200	1.200	1.200	0.100	0.0	43	2.107	Velocity is more than 3 m/s
	26.5	1.200	1.254	1.200	1.254	0.205	0.0	127	0.936	

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	26.684	20.5	300	Circular_Default Sewer Type	11.347	9.350	1.697	10.059	8.050	1.709
2.000	18.086	150.7	300	Circular_Default Sewer Type	9.716	8.220	1.196	9.933	8.100	1.533
2.001	8.622	172.4	300	Circular_Default Sewer Type	9.933	8.100	1.533	10.059	8.050	1.709
1.001	50.355	43.8	375	Circular_Default Sewer Type	10.059	8.050	1.634	8.431	6.900	1.156
3.000	34.992	38.9	150	Circular_Default Sewer Type	10.600	9.800	0.650	9.650	8.900	0.600
3.001	5.253	105.1	225	Circular_Default Sewer Type	9.650	8.900	0.525	9.450	8.850	0.375
3.002	42.652	29.4	225	Circular_Default Sewer Type	9.450	8.850	0.375	8.700	7.400	1.075
3.003	10.607	42.4	225	Circular_Default Sewer Type	8.700	7.400	1.075	8.645	7.150	1.270
3.004	36.038	181.1	300	Circular_Default Sewer Type	8.645	7.075	1.270	8.431	6.876	1.255
4.000	22.558	112.8	150	Circular_Default Sewer Type	8.100	7.500	0.450	8.200	7.300	0.750
4.001	21.392	142.6	150	Circular_Default Sewer Type	8.200	7.300	0.750	8.050	7.150	0.750
4.002	20.935	168.8	225	Circular_Default Sewer Type	8.050	7.075	0.750	8.431	6.951	1.255
1.002	5.575	398.2	450	Circular_Default Sewer Type	8.431	6.726	1.255	8.600	6.712	1.438
5.000	8.192	81.9	150	Circular_Default Sewer Type	9.000	7.650	1.200	8.900	7.550	1.200
5.001	4.455	14.9	300	Circular_Default Sewer Type	8.900	7.400	1.200	8.600	7.100	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1200	Manhole	Adoptable	4	1350	Manhole	Adoptable
2.000	2	1200	Manhole	Adoptable	3	1200	Manhole	Adoptable
2.001	3	1200	Manhole	Adoptable	4	1350	Manhole	Adoptable
1.001	4	1350	Manhole	Adoptable	13	1350	Manhole	Adoptable
3.000	5	450	Manhole	Adoptable	6	450	Manhole	Adoptable
3.001	6	450	Manhole	Adoptable	7	450	Manhole	Adoptable
3.002	7	450	Manhole	Adoptable	8	450	Manhole	Adoptable
3.003	8	450	Manhole	Adoptable	9	1200	Manhole	Adoptable
3.004	9	1200	Manhole	Adoptable	13	1350	Manhole	Adoptable
4.000	10	450	Manhole	Adoptable	11	450	Manhole	Adoptable
4.001	11	450	Manhole	Adoptable	12	450	Manhole	Adoptable
4.002	12	450	Manhole	Adoptable	13	1350	Manhole	Adoptable
1.002	13	1350	Manhole	Adoptable	14	600	Manhole	Adoptable
5.000	CP.1	500	Manhole	Adoptable	CP.3	500	Manhole	Adoptable
5.001	CP.3	500	Manhole	Adoptable	15	600	Manhole	Adoptable

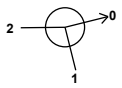
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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
5.002	13.056	241.8	300	Circular_Default Sewer Type	8.600	7.100	1.200	8.600	7.046	1.254

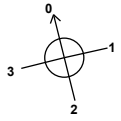
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
5.002	15	600	Manhole	Adoptable	14	600	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
1	565205.670	174107.107	11.347	1.997	1200	Manhole	Adoptable		0	1.000	9.350	300	Circular_Default Sewer Type
2	565238.812	174081.477	9.716	1.496	1200	Manhole	Adoptable		0	2.000	8.220	300	Circular_Default Sewer Type
3	565234.438	174099.026	9.933	1.833	1200	Manhole	Adoptable		1	2.000	8.100	300	Circular_Default Sewer Type
									0	2.001	8.100	300	Circular_Default Sewer Type
4	565232.352	174107.392	10.059	2.009	1350	Manhole	Adoptable		1	2.001	8.050	300	Circular_Default Sewer Type
									2	1.000	8.050	300	Circular_Default Sewer Type
									0	1.001	8.050	375	Circular_Default Sewer Type
5	565214.171	174050.936	10.600	0.800	450	Manhole	Adoptable		0	3.000	9.800	150	Circular_Default Sewer Type

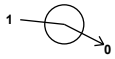
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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
6	565248.123	174059.405	9.650	0.750	450	Manhole	Adoptable	 1	3.000	8.900	150	Circular_Default Sewer Type
								0	3.001	8.900	225	Circular_Default Sewer Type
7	565250.170	174064.243	9.450	0.600	450	Manhole	Adoptable	1	3.001	8.850	225	Circular_Default Sewer Type
								 0	3.002	8.850	225	Circular_Default Sewer Type
8	565291.658	174074.141	8.700	1.300	450	Manhole	Adoptable	 1	3.002	7.400	225	Circular_Default Sewer Type
								0	3.003	7.400	225	Circular_Default Sewer Type
9	565289.927	174084.606	8.645	1.570	1200	Manhole	Adoptable	 1	3.003	7.150	225	Circular_Default Sewer Type
								0	3.004	7.075	300	Circular_Default Sewer Type
10	565318.935	174084.425	8.100	0.600	450	Manhole	Adoptable	 0	4.000	7.500	150	Circular_Default Sewer Type
11	565313.462	174106.309	8.200	0.900	450	Manhole	Adoptable	1	4.000	7.300	150	Circular_Default Sewer Type
								 0	4.001	7.300	150	Circular_Default Sewer Type
12	565301.642	174124.139	8.050	0.975	450	Manhole	Adoptable	1	4.001	7.150	150	Circular_Default Sewer Type
								 0	4.002	7.075	225	Circular_Default Sewer Type
13	565281.211	174119.574	8.431	1.705	1350	Manhole	Adoptable	 1	4.002	6.951	225	Circular_Default Sewer Type
								2	3.004	6.876	300	Circular_Default Sewer Type
								3	1.001	6.900	375	Circular_Default Sewer Type
								0	1.002	6.726	450	Circular_Default Sewer Type

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
CP.1	565261.165	174123.633	9.000	1.350	500	Manhole	Adoptable					
								0	5.000	7.650	150	Circular_Default Sewer Type
CP.3	565263.804	174131.388	8.900	1.500	500	Manhole	Adoptable	1	5.000	7.550	150	Circular_Default Sewer Type
												
								0	5.001	7.400	300	Circular_Default Sewer Type
15	565268.235	174130.922	8.600	1.500	600	Manhole	Adoptable	1	5.001	7.100	300	Circular_Default Sewer Type
												
								0	5.002	7.100	300	Circular_Default Sewer Type
14	565279.862	174124.983	8.600	1.888	600	Manhole	Adoptable	1	5.002	7.046	300	Circular_Default Sewer Type
												
								2	1.002	6.712	450	Circular_Default Sewer Type

Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	240	Check Discharge Rate(s)	✓
Rainfall Events	Singular	Analysis Speed	Normal	Additional Storage (m³/ha)	20.0	Check Discharge Volume	✓
Summer CV	1.000	Skip Steady State	✓	Starting Level (m)		100 year 360 minute (m³)	

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	45	0	0

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Pre-development Discharge Rate

Site Makeup	Greenfield	Soil Index	1	Growth Factor 30 year	1.95	Q 1 year (l/s)	
Greenfield Method	IH124	SPR	0.10	Growth Factor 100 year	2.48	Q 30 year (l/s)	
Positively Drained Area (ha)		Region	1	Betterment (%)	0	Q 100 year (l/s)	
SAAR (mm)		Growth Factor 1 year	0.85	QBar			

Pre-development Discharge Volume

Site Makeup	Greenfield	Soil Index	1	Return Period (years)	100	Betterment (%)	0
Greenfield Method	FSR/FEH	SPR	0.10	Climate Change (%)	0	PR	
Positively Drained Area (ha)		CWI		Storm Duration (mins)	360	Runoff Volume (m³)	

Node 14 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	15.00000	Safety Factor	2.0	Invert Level (m)	6.500
Side Inf Coefficient (m/hr)	15.00000	Porosity	1.00	Time to half empty (mins)	7

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	50.0	50.0	1.500	300.0	308.3

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Approval Settings

Node Size	✓	Crossings	✓	Minimum Full Bore Velocity (m/s)	
Node Losses	✓	Cover Depth	✓	Maximum Full Bore Velocity (m/s)	3.000
Link Size	✓	Minimum Cover Depth (m)		Proportional Velocity	✓
Minimum Diameter (mm)	150	Maximum Cover Depth (m)	3.000	Return Period (years)	
Link Length	✓	Backdrops	✓	Minimum Proportional Velocity (m/s)	0.750
Maximum Length (m)	100.000	Minimum Backdrop Height (m)		Maximum Proportional Velocity (m/s)	3.000
Coordinates	✓	Maximum Backdrop Height (m)	1.500	Surcharged Depth	✓
Accuracy (m)	1.000	Full Bore Velocity	✓	Return Period (years)	

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Approval Settings

Maximum Surcharged Depth (m)	0.100	Discharge Rates	✓	Return Period (years)	30
Flooding	✓	Discharge Volume	✓	First Flush Depth (mm)	5
Return Period (years)	30	100 year 360 minute (m^3)			
Time to Half Empty	x	First Flush	✓		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +45% CC 15 minute summer	462.782	130.951	100 year +45% CC 720 minute winter	23.299	9.292
100 year +45% CC 15 minute winter	324.760	130.951	100 year +45% CC 960 minute summer	29.151	7.676
100 year +45% CC 30 minute summer	310.760	87.934	100 year +45% CC 960 minute winter	19.310	7.676
100 year +45% CC 30 minute winter	218.078	87.934	100 year +45% CC 1440 minute summer	21.832	5.851
100 year +45% CC 60 minute summer	213.089	56.313	100 year +45% CC 1440 minute winter	14.673	5.851
100 year +45% CC 60 minute winter	141.572	56.313	100 year +45% CC 2160 minute summer	15.906	4.396
100 year +45% CC 120 minute summer	127.724	33.754	100 year +45% CC 2160 minute winter	10.959	4.396
100 year +45% CC 120 minute winter	84.857	33.754	100 year +45% CC 2880 minute summer	13.246	3.550
100 year +45% CC 180 minute summer	97.184	25.009	100 year +45% CC 2880 minute winter	8.902	3.550
100 year +45% CC 180 minute winter	63.172	25.009	100 year +45% CC 4320 minute summer	9.880	2.583
100 year +45% CC 240 minute summer	76.574	20.236	100 year +45% CC 4320 minute winter	6.506	2.583
100 year +45% CC 240 minute winter	50.874	20.236	100 year +45% CC 5760 minute summer	8.012	2.051
100 year +45% CC 360 minute summer	58.541	15.065	100 year +45% CC 5760 minute winter	5.186	2.051
100 year +45% CC 360 minute winter	38.053	15.065	100 year +45% CC 7200 minute summer	6.714	1.713
100 year +45% CC 480 minute summer	46.487	12.285	100 year +45% CC 7200 minute winter	4.333	1.713
100 year +45% CC 480 minute winter	30.885	12.285	100 year +45% CC 8640 minute summer	5.795	1.478
100 year +45% CC 600 minute summer	38.467	10.522	100 year +45% CC 8640 minute winter	3.740	1.478
100 year +45% CC 600 minute winter	26.283	10.522	100 year +45% CC 10080 minute summer	5.119	1.306
100 year +45% CC 720 minute summer	34.669	9.292	100 year +45% CC 10080 minute winter	3.304	1.306

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 98.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	9.436	0.086	45.3	0.1495	0.0000	OK
15 minute summer	2	10	8.386	0.166	45.3	0.3214	0.0000	OK
15 minute summer	3	10	8.314	0.214	67.5	0.3118	0.0000	OK
15 minute summer	4	10	8.222	0.172	134.8	0.2970	0.0000	OK
15 minute summer	5	11	10.120	0.320	30.2	0.3704	0.0000	SURCHARGED
15 minute summer	6	11	9.123	0.223	49.5	0.2139	0.0000	OK
15 minute summer	7	11	9.026	0.176	71.4	0.2034	0.0000	OK
15 minute summer	8	11	8.209	0.809	92.3	0.5025	0.0000	SURCHARGED
15 minute summer	9	11	7.732	0.657	112.8	0.9947	0.0000	SURCHARGED
15 minute summer	10	12	8.075	0.575	7.6	0.2829	0.0000	FLOOD RISK
15 minute summer	11	11	8.037	0.737	27.1	0.6090	0.0000	FLOOD RISK
15 minute summer	12	11	7.498	0.423	47.3	0.3274	0.0000	SURCHARGED
15 minute summer	13	11	7.280	0.554	313.3	0.9886	0.0000	SURCHARGED
15 minute summer	CP.1	11	7.741	0.091	0.5	0.0179	0.0000	OK
15 minute summer	CP.3	10	7.749	0.349	75.6	0.5336	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	4	45.1	1.565	0.183	0.7795
15 minute summer	2	2.000	3	44.9	0.953	0.497	0.8483
15 minute summer	3	2.001	4	67.0	1.400	0.793	0.4113
15 minute summer	4	1.001	13	133.5	1.974	0.440	4.0052
15 minute summer	5	3.000	6	27.9	1.587	0.976	0.6160
15 minute summer	6	3.001	7	49.4	1.534	0.974	0.1916
15 minute summer	7	3.002	8	70.7	1.873	0.734	1.5570
15 minute summer	8	3.003	9	91.2	2.292	1.139	0.4219
15 minute summer	9	3.004	13	112.3	1.596	1.364	2.5378
15 minute summer	10	4.000	11	9.0	0.510	0.537	0.3971
15 minute summer	11	4.001	12	26.6	1.511	1.793	0.3766
15 minute summer	12	4.002	13	47.1	1.185	1.182	0.8326
15 minute summer	13	1.002	14	313.5	1.987	1.947	0.8479
15 minute summer	CP.1	5.000	CP.3	0.7	0.261	0.034	0.1181
15 minute summer	CP.3	5.001	15	73.6	1.046	0.254	0.3137

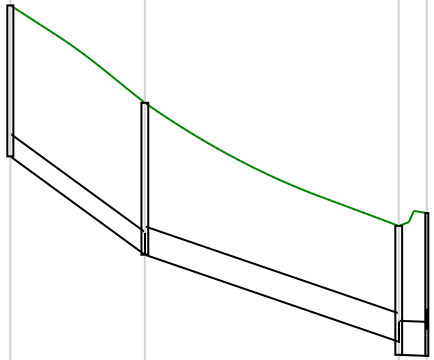
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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 98.73%

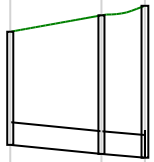
Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	15	10	7.700	0.600	153.0	1.0104	0.0000	SURCHARGED
15 minute summer	14	13	7.101	0.389	463.7	60.3044	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	15	5.002	14	151.5	2.152	2.130	0.9077
15 minute summer	14	Infiltration		308.7			

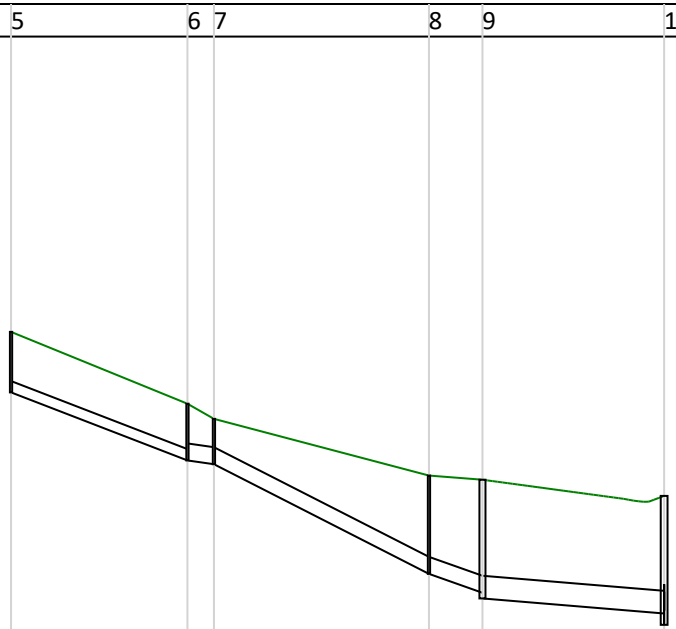
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Node Name		1	4	13	14
A4 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 3.000					
Link Name		1.000	1.001	1.0	
Section Type		300mm	375mm	45	
Slope (1:X)		20.5	43.8	39	
Cover Level (m)		11.347	10.059	8.431	8.600
Invert Level (m)		9.350	8.050 / 8.050	6.900 / 6.712	
Length (m)		26.684	50.355	5.5	

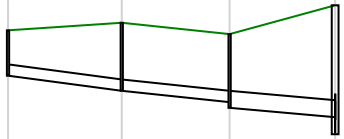
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Node Name		2	3	4
A4 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 3.000				
Link Name		2.000	2.00	
Section Type		300mm	300	
Slope (1:X)		150.7	172	
Cover Level (m)		9.716	9.933	10.059
Invert Level (m)		8.220	8.100	8.050
Length (m)		18.086	8.62	

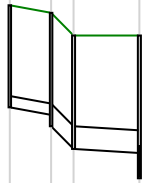
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Node Name	5	6	7	8	9	13
A4 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 3.000						
Link Name	3.000	3.0	3.002	3.00	3.004	
Section Type	150mm	22	225mm	225n	300mm	
Slope (1:X)	38.9	10	29.4	42.4	181.1	
Cover Level (m)	10.600	9.650	9.450	8.700	8.645	8.431
Invert Level (m)	9.800	8.900	8.850	7.400	7.400 7.150	7.075 6.876
Length (m)	34.992	5.2	42.652	10.6	36.038	

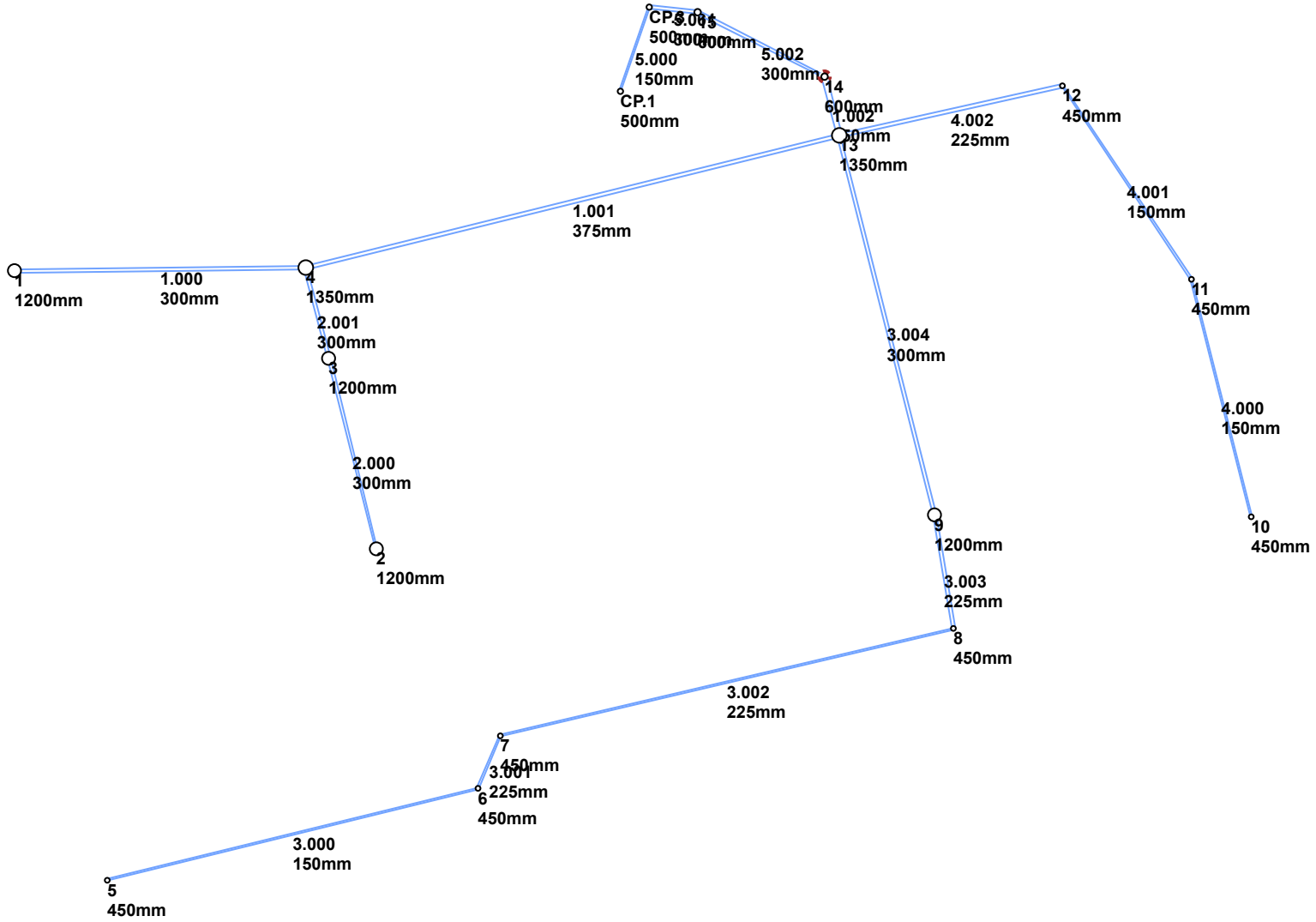
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Node Name		10	11	12	13
A4 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 2.000					
Link Name		4.000	4.001	4.002	
Section Type		150mm	150mm	225mm	
Slope (1:X)		112.8	142.6	168.8	
Cover Level (m)		8.100	8.200	8.050	8.431
Invert Level (m)		7.500 7.300	7.300 7.150	7.075 6.951	
Length (m)		22.558	21.392	20.935	

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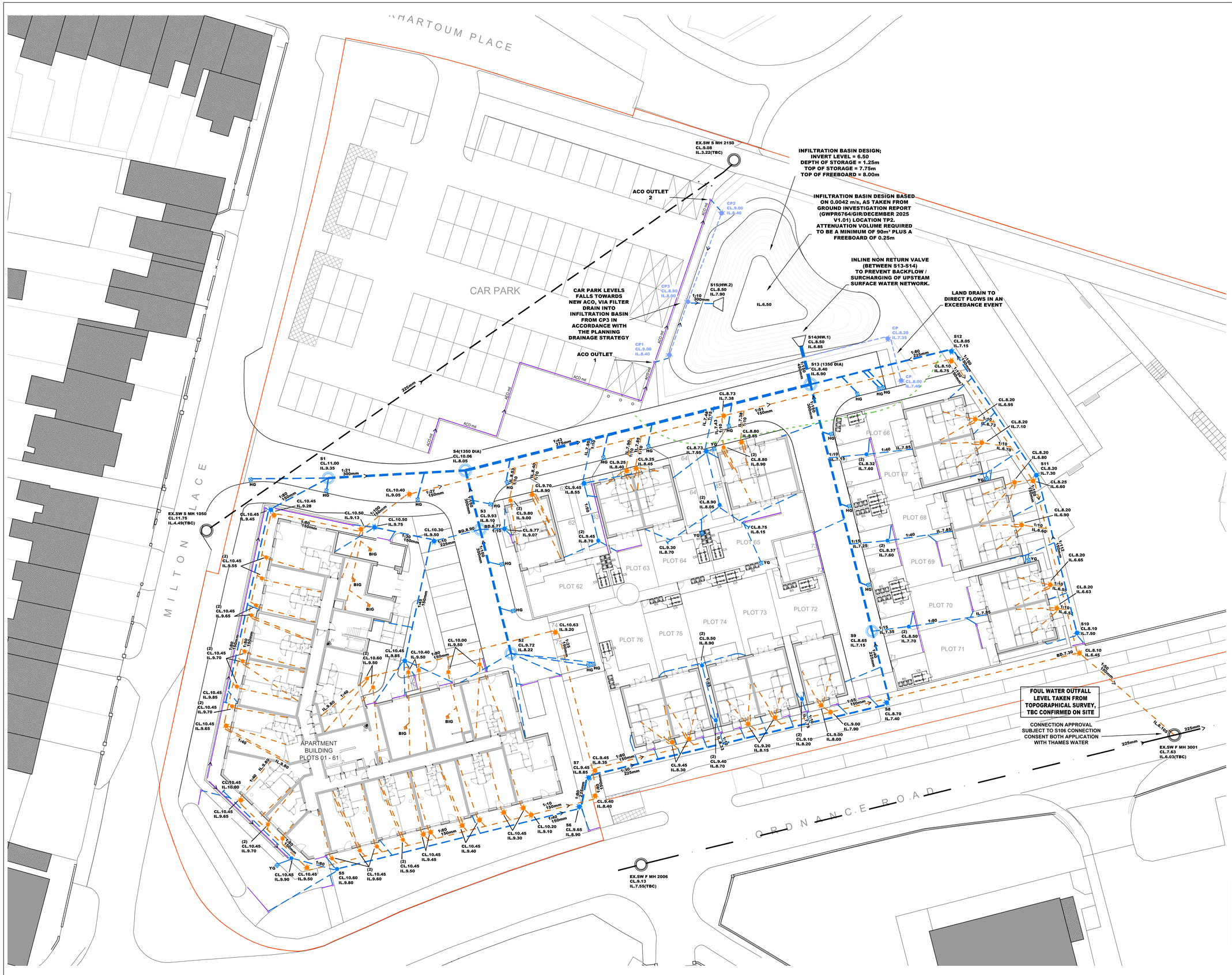
Node Name	CP.1	CP.13	14
A4 drawing Hor Scale 1500 Ver Scale 100 Datum (m) 2.000			
Link Name	5.00	5.5	5.002
Section Type	150	300	300m
Slope (1:X)	81.9	14	241.8
Cover Level (m)	9.000	8.900	8.600	8.600
Invert Level (m)	7.650	7.550	7.400	7.100	7.046
Length (m)	8.19	4.1	13.05

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APPENDIX G – IESIS DRAINAGE PLAN DRAWING



NOTES

1. DO NOT SCALE THIS DRAWING ON PRINT OR ELECTRONICALLY. WORK FROM FIGURED DIMENSIONS ONLY.
2. No deviation from the details shown on this drawing is allowed without IESIS's prior permission in writing.
3. Read this drawing with all Architects, Service Engineers and IESIS's relevant details and drawings. **NB.** Setting-out dimensions as per the Architect's drawings take precedence.
4. All work is to be in accordance with the relevant specifications issued by IESIS, British Standard Codes of Practice, Statutory requirements and the Contract Documents.
5. DRAWING STATUS

   P : **PRELIMINARY** - Evolving drawings for approvals,Tenders, Billings, etc.

   C : **CONSTRUCTION** - Fully developed drawings issued under instruction for construction.

   ONLY STATUS C DRAWINGS TO BE USED FOR CONSTRUCTION.

6. SUITABILITY CODE

   WORK IN PROGRESS:

   S0 - Work in progress

   SHARED (NON-CONTRACTUAL):

   S1 - For coordination, **S2** - For information, **S3** - For internal review and comment, **S4** - For construction approval.

   DOCUMENTATION (FOR CONTRACTOR PURPOSES):

   D1 - For costing, **D2** - For Tender, **D3** - For contractor design, **D4** - For manufacture / procurement.

   CONSTRUCTION:

   A - For construction, **B** - For construction but with comments (i.e. areas in abeyance), **C** - Comprehensive revisions required.

DRAINAGE KEY

- EXISTING SURFACE WATER SEWER TO BE RETAINED
- EXISTING FOUL WATER SEWER TO BE RETAINED
- S10 / 40.000 / 38.650 — SURFACE WATER MANHOLE 1200mm DIA UNO; MH REF; COVER LEVEL; INVERT LEVEL
- CL.54.95 / IL.53.85 — PRIVATE SURFACE INSPECTION CHAMBER Ø450mm UNO Ø250, 280 or 300mm WHERE REF (2) INDICATED Ø2500mm CATCHPIT WHERE REF (CP) INDICATED CL = COVER LEVEL IL = INVERT LEVEL PIPE 100mm Ø UNO
- CL.54.95 / IL.53.85 — PRIVATE FOUL INSPECTION CHAMBER Ø450mm UNO Ø250, 280 or 300mm WHERE REF (2) INDICATED CL = COVER LEVEL IL = INVERT LEVEL PIPE 100mm Ø UNO
- RG — PRIVATE ROAD GULLY, WITH 150mm OUTFALL
- YG — PRIVATE YARD GULLY, WITH SUMP AND 100mm OUTFALL
- PRIVATE RODDING EYE IL - 0.45m UNO, 100mmØ
- PRIVATE CHANNEL DRAIN, WITH SUMP AND 100mmØ OUTLET, ACO THRESHOLD DRAIN OR SIMILAR APPROVED
- ACO md — PRIVATE CHANNEL DRAIN, WITH OUTLET SUMP. ACO MD200 20 OR SIMILAR APPROVED, GRATE FINISH TBC BY LANDSCAPE ARCHITECT.
- LAND DRAINAGE, 150mm PERFORATED PIPE A 0.45m WIDE STONE FILLED TRENCH SURROUNDED IN A PERMEABLE MEMBRANE, DEPTH TO THE IL SHOWN.
- 10m OFFSET FROM SOAKAWAY (TO FOUNDATION) AS RECOMMENDED BY SITE INVESTIGATION REPORT

GENERAL DRAINAGE NOTES:
FOR MANHOLE / INSPECTION CHAMBER TYPES, REFER TO DRAINAGE DETAILS SHEETS.

FOR MANHOLE SETTING OUT CO-ORDINATES, REFER TO LATEST CAD PLAN.

FINAL COVER LEVELS TO BE ADJUSTED ON SITE WHERE REQUIRED.

ALL GULLIES OR CHANNEL TO BE LOCATED AT LOW POINTS. LOW POINTS TO BE CHECKED ON SITE PRIOR TO HIGHWAY SURFACING.

LAND DRAINAGE NOTE (APPLICABLE SITE WIDE):
CONTRACTOR TO MANAGE ALL TEMPORARY MEASURES REQUIRED DURING CONSTRUCTION PHASE.

SOFT LANDSCAPE AREAS IN ACCORDANCE WITH LANDSCAPE ARCHITECTS DETAILS.

LAND DRAINAGE SHOWN IN AREAS OF CUT AND ARE AIMED AT DEWATERING THE PERMANENT GROUND WATER. THE AREAS SHOULD BE MONITORED, AND INSPECTED PRIOR TO COMPLETION / OCCUPATION.

IN OTHER AREAS, AND ON THE BASIS ALL GARDENS AND LANDSCAPING AREAS ARE PREPARED A SUITABLE GARDEN PROTOCOL BY A GEOTECHNICAL ENGINEER, ON THIS BASIS IT IS ASSUMED NO ADDITIONAL DRAINAGE IS REQUIRED. UNLESS WE AS THE DESIGN CIVIL ENGINEERS ARE NOTIFIED OTHERWISE. FOR ANY DRAINAGE TO RETAINING WALLS, REFER TO STRUCTURAL ENGINEER'S DETAILS.

IF THERE ARE ANY DISCREPANCIES, PLEASE CONTACT US PRIOR TO THE COMMENCEMENT OF WORKS.

SUBJECT TO CO-ORDINATION

Status/Rev	Description	Date	By
P3	BASIN DETAILS UPDATED FOLLOWING UPDATED SITE INVESTIGATION, 10m OFFSET ADDED	14.01.26	KW
P2	ISSUED FOR INFORMATION	21.11.25	KW
P1	ISSUED FOR INFORMATION	03.11.25	KW

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Job Title: MILTON PLACE

Client: HILL GROUP

PROPOSED DRAINAGE PLAN

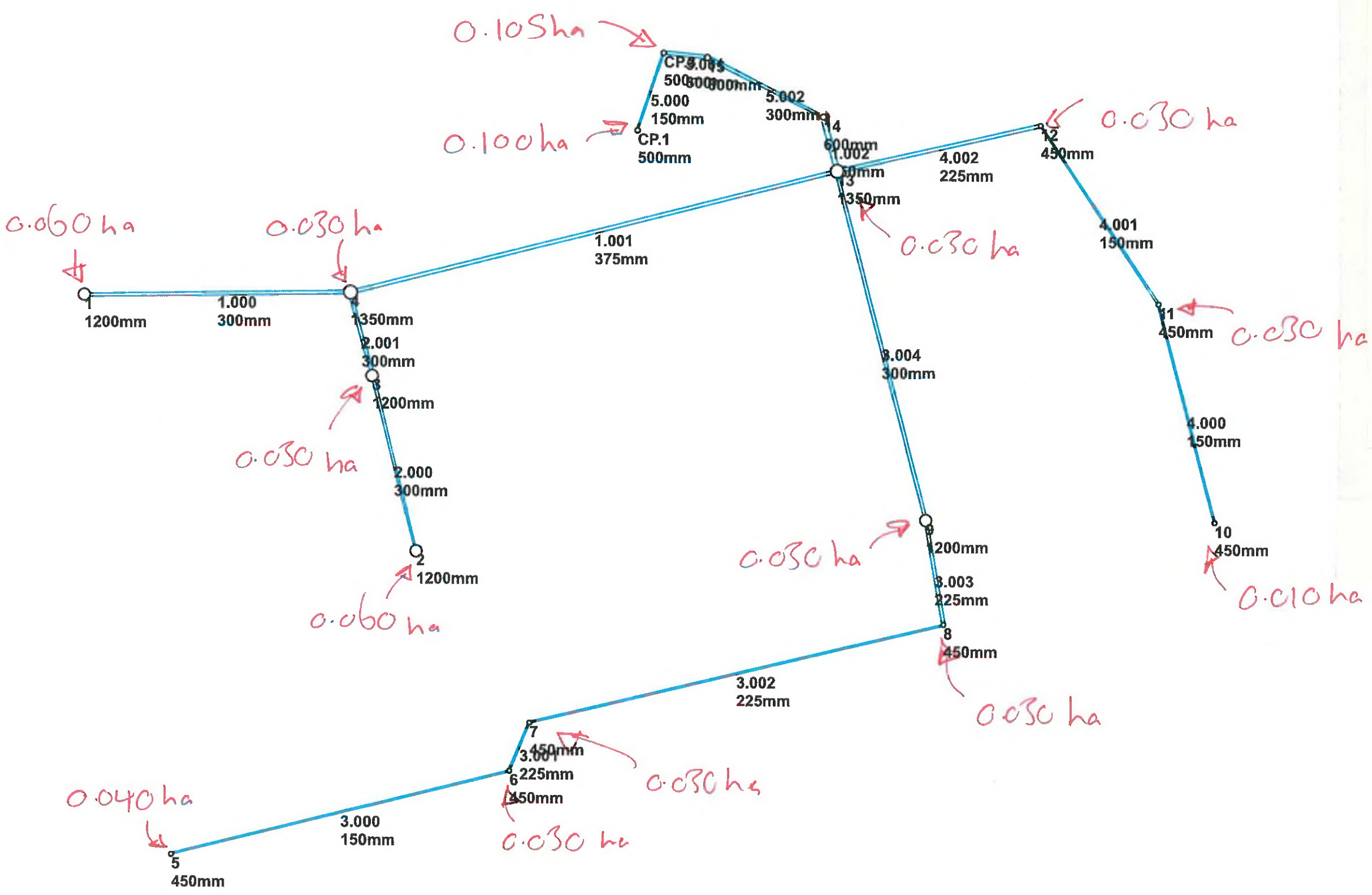
drawn	date	scale @ A1	C1 checked	IESIS Project No.
KW	NOV'25	1:250	-	SE2490

Drg No.	Suitability	Status/Revision
MPG-ISS-XX-00-D-C-30000	S2	P3

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APPENDIX H – CATCHMENT PLAN

Causeway	Iesis Special Structures Ltd	File: MILTON PLACE SW_ALL.PFD Network: Storm Network 1 Gareth Wilby 14/01/2026	Page 1 Surface Water Calculations Catchment Plan



Name	Area (ha)
1	0.060
2	0.060
3	0.030
4	0.030
5	0.040
6	0.030
7	0.030
8	0.030
9	0.030
10	0.010
11	0.030
12	0.030
13	0.030
CP.1	
CP.3	0.100
15	0.105
14	
TOTAL	0.645

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